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Tros Tyriusque mihi nullo discrimine agetur.

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NORTH AMERICAN REVIEW.

No. CCCXXIV.

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LIMITED SUFFRAGE IN RHODE ISLAND.

It may be safely said that more has been written, and that less is understood, about the political institutions of Rhode Island than of any of the other States. The subject has unfortunately passed into the province of partisan discussion, a field especially unsuited to candid statement of facts, and little favorable to impartial weighing of arguments. Moreover, the discussion has been largely carried on, without the State, by those who neither enjoy the advantages nor suffer the inconveniences of the system which they criticise, who have no practical experience of the reasons in which it is founded, and to whom the subject can present itself only as a matter of mere political speculation or of missionary enterprise.

It has occurred to me to bring forward some considerations upon the subject, and although they will be mainly a repetition of what I have said elsewhere, I do not flatter myself that my previous utterances have gone far enough to deprive them of any freshness which they may originally have possessed.

It has been widely represented that the suffrage in Rhode Island attaches strictly to the soil, and that no man is permitted to vote unless he be the owner of a certain value of land. If this were true, it would be a sufficient answer that it was a matter of our own exclusive concern; that the limitation of the suffrage suited us, who alone were affected by it; that they who did not like it were under no obligation to come within its reach; and

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that while we extend a cordial welcome to all whose interests or inclinations lead them to pass within our limits, we do not see fit to alter our institutions to suit the ideas of government, the opinions, and the tastes which they may bring with them.

When Rhode Island entered the Union, her government was one of the most liberal of those then existing, nearly all of which required a property qualification for the suffrage; many of them a much larger qualification for holding office, proportioned to its dignity and importance; and several of them a religious test. In Rhode Island, no qualification was required for holding office beyond that for the exercise of the suffrage, and absolute freedom of religion was an essential principle of the government. The powers of the executive were stringently limited; and nearly the whole authority of the State was delegated to a legislature, the most numerous branch of which was chosen twice a year.

More slowly than in the case of her sister States, the sturdy conservatism of Rhode Island has yielded to the liberalizing temper of the times, which has carried some of them far beyond the limits of safe and prudent government, and has brought them within sight of communism; which has broken down the barriers that protect individual independence, and has endangered the very rights of property; and although, as respects citizens born in the United States, she has surrendered the land qualification for suffrage, she retains it for citizens of foreign birth. This qualification is not at all burdensome, being a landed estate of the value of one hundred and thirty-four dollars, or of the yearly rental value of seven dollars.

I shall not discuss the right of each State to establish its own suffrage, and to prescribe the terms on which persons may enter the body politic: this I assume is universally conceded. Even the committee appointed by the Senate of the United States in 1879 to visit Rhode Island, and to inquire into the right of the people of this State to manage their own affairs in their own way, while strongly disapproving of our restricted suffrage, did not dispute but expressly admitted our right to establish, to maintain, and to modify it at our own good pleasure. Nor shall I waste time in antagonizing the sentimental idea that suffrage is a natural right. I assume that it is conceded by all thinking men, that suffrage, in its very character and constitution, is a right or a privilege growing out of society, and that its conditions and limitations are properly fixed by society; else there could be no limitation of sex, no requirement of a term of resi-

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dence, scarcely of age, for undoubtedly some lads of eighteen are better qualified to exercise the right of suffrage than their fathers. Certainly, if it were a natural and inalienable right, it could not be limited by the condition of paying taxes, which is, in its nature, similar to a property qualification.

The circumstances of the foundation and settlement of Rhode Island were peculiar. The early settlers were distinguished by a marked individuality of character, and this individuality, in some cases, consolidated and stamped itself upon the State. Among the traits that it has developed are an adherence to old customs, a reverence for the traditions of the founders, an attachment to the ways and methods of the fathers. The people of Rhode Island have preserved with scrupulous care the forms and ceremonies of their government.*

It is not strange that a people of this stable character should adhere tenaciously to the political institutions which have so long protected them, and under which they have attained to so great prosperity; but this conservative disposition has not by any means retarded the progress of the State in high civilization, and the people have more substantial reasons than a sentimental respect for tradition and long custom, for adherence to their peculiar suffrage. Under it Rhode Island has become the most densely populated State in the Union; the accumulations of its diversified industry have made its people one of the richest; their labor has been well rewarded; their government has been, on the whole, well administered; responsibility, order, economy, integrity have characterized it. The institutions of learning, of religion, of charity, and of benevolence have been munificently maintained, and popular education has been generally extended and amply supported. Nowhere on the face of the earth do

* The inaugural ceremonies at the election of governor and general officers have been handed down without change from colonial times. The proclamation that was formerly made from the steps of the great hall of the tavern, where the election was held, and which was then a matter of substance, and gave the first information of the result, but which is now made from the balcony over the grand entrance of the State House at Newport (which venerable structure was erected in the earlier part of the last century, and was said at the time to be "a Colony House, the like of which is not in any of the colonies"), has long since ceased to be anything but a mere form. In the rural parts of the State, quaint customs, descended from the olden time, prevail. It is only within a few years that the old English custom of commemorating "Guy Fawkes's day," by bonfires and burning in effigy, was abandoned in the ancient town of Bristol, which was not however originally a part of Rhode Island, but was acquired from Massachusetts.

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the laboring population enjoy more of the comforts and the luxuries of life or greater advantages for their children; nowhere is a greater proportion of the property of the State in the hands of the men who have earned it; and, although there is much inherited wealth, nowhere has so large a class of the people risen by their own industry to competency and opulence. The deposits in the savings banks — a good indication of the prosperity of the working classes — aggregate $46,771,728, or an average of $169 to every soul in the State, and distributed among 102,991 persons, comprising considerably more than one-third of the total population. This exceeds the ratio of deposits to population in New York, Massachusetts, and Connecticut, where, I suppose, it is greater than in the other States, except Rhode Island. I do not believe that any other community in the world exhibits, by this test, so great prosperity among its laboring population.

The population of Rhode Island is peculiar in this, that the proportion of the agricultural to the mechanical and manufacturing classes is comparatively small. Parts of the State are exceedingly fertile, but the rugged and ungrateful soil of the greater portion of it offers too little encouragement to thorough cultivation; the restless and enterprising character of the people has found expression in other pursuits of industry. The rivers of the State are fringed with factories and workshops, and the smoke that ascends unceasingly from their hundreds of chimneys darkens the atmosphere of day, and the flames illumine the blackness of night. The agricultural population of the old thirteen States largely exceeds the manufacturing and mechanical together. Taking the whole country, the agricultural is more than double the manufacturing and mechanical. In Rhode Island, the agricultural population numbers less than one quarter of the manufacturing and mechanical. Now, all experience has shown that the agricultural class is the safest depositary of political power. Men who live on their paternal acres, and who maintain themselves by the labor of their hands, are conservative in their temper, cautious in change, and averse to political experiment. They are, of necessity, industrious and economical, careful of their hard-earned accumulations. They are generally above the average standard of integrity, thoughtful and considerate, and altogether — of course, with many exceptions and not without important limitations — they unite, more than any other considerable class of people, the qualities that fit men to govern a free State. The manufacturing and mechanical classes, al-

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though in this country generally well informed, and in many cases cultivated, especially where they have enjoyed the advantages of our free schools, are more transient, without the strong local attachment that distinguishes the agricultural class; and, moving from place to place, and from State to State, as the inducements of higher wages and the opportunities of bettering themselves are presented, they have feebler ties of possession to bind them to the State, and, comparatively, but a passing interest in its welfare. To these classes generally belong the citizens of foreign birth in Rhode Island. They are useful citizens, indeed, indispensable to the development of the industries and the production and to the prosecution of the enterprises of the State; they may well be intrusted with a portion of the political power, but they cannot safely be made the ruling class, as they would practically be or would soon become in Rhode Island, if admitted to an equality of suffrage.

The immigration from Europe is not largely composed of the most intelligent and cultivated classes. It is in a great degree made up of men who have known government at home chiefly by its exactions and its oppressions; and the memory of these, working upon poverty and ignorance, has engendered a hostility to all government, to all the restraints, even the most healthy and necessary, of law. They require an education under republican institutions before they can be qualified to participate in them; and although the legal conditions of naturalization wisely provide for such term of probation, these are made nugatory by their shamefully lax administration. If the immigrants who settle in Rhode Island were naturalized only in our own courts or in the courts of the United States within our borders, they would be better qualified for citizenship; but we are compelled to accept them as they come to us from portions of the Union where the law is altogether disregarded, and where men, dismissed from the almshouses and prisons of Europe, are admitted to the full rights of American citizenship before they have been in the country long enough to have learned to perjure themselves in intelligible English. The naturalization frauds in the city of New York alone are sufficient to poison the suffrage of the whole country. The restrictions of the law are wholly and notoriously disregarded, and applicants are admitted to citizenship on testimony which no judge would submit to a jury in a case where five dollars were involved. Hundreds are passed at once, on the testimony of a single witness who does not know

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one of them; and it is in proof that more have been passed in an hour than could go through the forms properly and decently in a day. These men, thus transformed into American citizens, in violation of the plainest provisions of law, ignorant of our institutions, unacquainted with our form of government, embittered against all government, and ready with little solicitation to become the instruments of demagogues, are sufficiently dangerous, when absorbed in the great agricultural States where healthy American sentiment prevails, but they are a menace to the public tranquillity and the stability of regulated and orderly government, when precipitated, in overwhelming numbers, upon a small community like Rhode Island.

It is for these reasons that the people of Rhode Island have maintained the restriction upon the foreign suffrage, a restriction that originally applied to the whole body of the citizens, but which, forty years ago, was removed from those of native birth. With the examples of Chicago and New York City before them, they dare not undertake the experiment of removing it from the foreign-born citizens; they dare not make the change, which, once made, could never be reversed. They believe that, with the suffrage of those cities, they would suffer the government of those cities, unrestrained by the influence of the rural population, which, in the States of New York and Illinois, controls in the legislative houses the excesses and violence of their chief commercial centers. Can a worse government be conceived than that of New York City or of Chicago left to itself!

That the restriction upon the foreign suffrage does not discourage the immigration of this class of citizens is abundantly shown by the large accessions to our population from this source. The proportion of foreign-born population to native in this State exceeds that of any other of the old thirteen, and is more than double that of the whole country. This proportion in the country at large is 13.32 per cent., in the old thirteen it is 14.17 per cent., in Rhode Island it is 26.76. Nor is the foreign-born population of Rhode Island surpassed by that of any other State in thrift, in industry, in orderly behavior, and in respect for law. The requirement of the possession of land as a qualification for suffrage encourages habits of industry and economy, promotes the self-respect of the land-holder, and has undoubtedly done much for the elevation of this class of our citizens.

It is somewhat singular that the government of Rhode Island, which, under the colonial charter, was the nearest to a pure

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democracy of any in the world, which grasped the great principles of civil and religious liberty so comprehensively and so completely, and carried them so fearlessly to their ultimate, legitimate conclusions, which certainly has never abandoned them, and which embodied the seminal principles of civil as well as of religious liberty, should now be stigmatized as aristocratic and anti-republican by States that are enjoying the results of her example in the "lively experiment that a most flourishing State may stand and best be maintained with a full liberty of religious concernments." The charter, in thoughtful deference to the consciences and the creeds of some of the colonists, which were so various "that, if a man had lost his religious opinions, he might have been sure to find them again in some village of Rhode Island," dispensed even with the oath of allegiance to the crown. No royal governor was appointed, but the people elected all their magistrates; and even the requirement that the laws be not repugnant to the laws of England, but as near as might be conformable to them, was modified by the condition, "considering the nature and constitution of the place and people there." "And so it came to pass," says Bancroft, "that the little 'democracie' which, at the beat of the drum or the voice of the herald, used to assemble beneath an oak or by the open sea-side, was famous for its 'headiness and tumults,' its stormy town-meetings and the angry feuds of its herdsmen and shepherds. But, true as the needle to the pole, the popular will instinctively pursued the popular interest. Amid the jarring quarrels of rival statesmen in the plantations, good men were chosen to administer the government, and the spirit of mercy, of liberality, and wisdom, was impressed on its legislation. 'Our popularitie,' say its records, 'shall not, as some conjecture it will, prove an anarchie and so a common tirannie; for we are exceedingly desirous to preserve every man safe in his person, name, and estate.'"

Again: "this first system has had its influence on the whole political history of Rhode Island; in no State in the world, not even in the agricultural State of Vermont, has the magistracy so little power, or the representatives of the freemen so much. The annals of Rhode Island, if written in the spirit of philosophy, would exhibit the forms of society under a peculiar aspect: had the territory of the State corresponded to the importance and singularity of the principles of its early existence, the world would have been filled with wonder at the phenomena of its history."

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And again: "this charter of government, constituting, as it then seemed, a pure democracy and establishing a political system which few, besides the Rhode Islanders themselves, believed to be practicable, is still in existence [1838] and is the oldest constitutional charter, now valid, in the world. It has outlived the principles of Clarendon and the policy of Charles II. The probable population of Rhode Island, at the time of its reception, may have been two thousand five hundred. In one hundred and seventy years that number has increased forty-fold; and the government, which was hardly thought to contain checks enough on the power of the people, to endure even among shepherds and farmers, protects a dense population and the accumulations of a widely extended commerce. Nowhere in the world have life, liberty, and property been safer than in Rhode Island."

The authority of the General Assembly, which, like that of the British Parliament, had been styled omnipotent, till controlled by the constitution of the United States, sufficed for such modifications of the fundamental law as the growth of the State, the development of its industries, and the changes of time rendered necessary, until 1842, when this, the oldest written form of government valid in the world, was superseded by the present constitution, repeated attempts to make the change having previously failed. The duration of the charter government and the adherence of the people to its great principles sufficiently attest the contentment, with their form of government, of those who were affected by it; and the repeated refusals of the electors to enlarge the suffrage beyond the limits fixed by the constitution which superseded the charter, equally attest their attachment to the restriction. They believe that this peculiarity, in consequence of which or in spite of which they have flourished, almost beyond example, is essential to their growth and prosperity and to their safety.

Such are the views which the people of Rhode Island entertain of government, of the government suited to themselves. They do not obtrude those views upon others, nor do they propose to modify them under outside pressure. There are communities around us where the rule is in the hands of men of foreign birth. There are States where foreigners, unnaturalized, are admitted to the equal rights of suffrage. The people who enacted those provisions had the right to do so. They would have the right to send to Ireland or to Germany, there to collect, return, and count, the votes of persons who contemplate emigration to this country. It would be none of our business.

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How many thoughtful men, in the cities of New York and Chicago, would hail with delight the modification of their suffrage to conform to ours, we do not inquire. We only know that it cannot be done, and that, if ours is modified to conform to theirs, it cannot be changed back again. Revolutions of this kind, certainly, never go backward. Although in drawing the line, to exclude the dangerous and the unworthy classes from participation in the government, we exclude some, doubtless many, who are well fitted for it, and include others who are not, still this objection would lie against any test that could be applied. The test should be intelligence and virtue. These cannot be measured or defined, and we think that, in the imperfection of all human institutions, the property qualification is practically the best that can be established, that on the whole it excludes more of the unworthy and fewer of the worthy than any other that can be devised. At all events, the commonwealth has wonderfully flourished under the prevailing system, and until we find another that commends itself better to our judgment, we are not likely to abandon it,—certainly not in the face of the practical results of unlimited suffrage in communities otherwise like our own.*

H. B. ANTHONY.

* "It has been argued that the right to restrict the suffrage by a landed qualification might allow the practical denial of the right by exaggerating the value of the qualification, and it is asked, triumphantly, why may not the same power that limits the qualification to $134 extend it to $10,000, which would be less in purchasing power than the ancient qualification for governor, lieutenant-governor, or privy councilor of South Carolina? This could only be done by the people, who would not be likely thus to disfranchise themselves, however they might have the sovereign right to do so. But the argument drawn from the liability of abusing the restriction is an argument against any qualification for voting. What is to prevent the people from forming a constitution that shall limit the suffrage to men of seventy years of age? Therefore should there be no limitation of age? What is to prevent them from limiting it to men who have resided fifty years in the State? Therefore should there be no qualification of residence? What is to prevent the Legislature from assessing a tax of fifty per cent. upon property? Therefore should it not have the power of taxation? What is to prevent the Legislature from making Sabbath-breaking and profane swearing capital crimes? Therefore should it not have the power to define crimes, and to affix the punishment of them? No power can be wholly protected from abuse; but power must be granted for the purposes of government, and the supervision of the people over their servants, to whom they delegate it, must be relied upon to restrain it within reasonable limits, and to prevent any exercise of that power for extravagant purposes."—*Speech in the Senate, February*, 1881, *in defense of Rhode Island.*

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THE GOVERNMENT AND THE TELEGRAPH.

MANY persons and not a few influential journals are now advocating a government telegraph. This proposition involves the consideration of both the power and the policy of our Government undertaking this important commercial function. Can the Government acquire, own, and operate a general system of telegraphy for commercial uses under the limited powers of the constitution? If so, is there any necessity for, or probable advantage to be derived from, such undertaking by the Government? And are there not grave political reasons why the Government should not assume and control this important medium of ready and rapid communication? These questions will form the subject of the present article.

POWER.—Although European governments have monopolized the telegraph within their respective dominions, except for oceanic cable service, it does not necessarily follow that the United States may lawfully do so. Ours is a constitutional government; and the very object of the constitution is to define and limit its powers and duties. In fact, the constitution is a compact or charter enacted by the several States, by virtue of which the Government of the United States was created and established, and under which it still exists.

There is much clamor throughout the country and in the public journals about the abuse of charter powers; and the tendency of the courts is to rule a strict construction and rigid limit to the powers clearly granted. If the same rigid observance of constitutional limitations had been demanded of the Government there would have been no occasion for the general outcry against the extravagant appropriations of the last Congress.

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Articles IX. and X. of the amendments to the Federal constitution read as follows:

"IX. The enumeration in the constitution of certain rights shall not be construed to deny or disparage others retained by the people.

"X. The powers not delegated to the United States by the constitution, nor prohibited by it to the States, are reserved to the States respectively, or to the people."

These amendments are among those which were proposed by enactment of the first Congress that assembled, and were evolved in the discussions of the ratification of the original instrument by the legislatures of the several States. They may be regarded as the understood conditions upon which the Government was constitutionally established; and therefore they distinctly exhibit the intent and purpose of its creators to restrict the powers of the Government strictly within the limits fixed by the constitution.

Now, the grants of power under which it is claimed that the Government may assume and control that great right hand of commerce, the telegraph, must be read in the light of these restraining articles. They are two grants in Section 8 of Article I., and are as follows:

"To establish post-offices and post-roads.

"To regulate commerce with foreign nations and among the several States and with Indian tribes."

If the power is assumed under the postal grant, then the most the Government can do is to hire the transmission of messages taken at and delivered from the post-offices, as it hires the carrying of mails by contract on the best terms it can make. The Government does not carry the mails. It hires others to carry them, and has always done so. It has never claimed the power to build or own railroads, or steam-boats, or even stage-coaches, or to appoint employés for their operation, to carry on the postal service. But it is now assumed that the Government may build or own a telegraph, equip it for operation, and employ a numerous staff of officers and agents for its commercial service, thus exercising powers that no one has ever claimed that it possesses in respect to the postal service.

The striking brevity and concise language of that grant tell the whole story as to the limitation of power it was intended to

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define. There were neither railroads nor steam-boats at the date of its enactment. The mails were carried chiefly by stage-coaches and, in the more sparsely settled parts of the country, on horseback. But there were some people then, as there are now, who thought the Government should own the stage-coaches, horses, and equipments, and appoint the officers and agents to operate them. The stage-coaches, however, must carry passengers, and this was a traffic in which the Government could not properly engage; and as this traffic was, on most lines, itself a source of profit, and as the Government would probably not conduct the business as economically, or as energetically, as individual or corporate enterprise, it was considered far better that the Government should have the mails carried by contract than that it should undertake the joint business of carrying mails and passengers. Hence the very restricted concession of power, "To establish post-offices and post-roads." Such had been the result of experience in the mother country; and now, a hundred years later, the same principles apply with equal force to the telegraph, should the Government determine to go into the business at all.

But the telegraph is not a postal service. It does not transport sealed packages, or original communications; nor is it by any means so generally used by the people. Many points of marked dissimilarity might be noted; but as the whole subject of the nature of the telegraph has been repeatedly defined and adjudicated by the Supreme Court, the authority of that high tribunal must settle the question.

In the case of the Western Union Telegraph Company *vs.* The State of Texas (105 U. S., 464), Chief-Justice Waite, in rendering the decision of the court, said:

"In Pensacola Telegraph Company *vs.* Western Union Telegraph Company (96 U. S., 1), this court held that the telegraph was an instrument of commerce, and that telegraph companies were subject to the regulating power of Congress in respect to their foreign and interstate business. A telegraph company occupies the same relation to commerce, as a carrier of messages, that a railroad company does as a carrier of goods. Both companies are instruments of commerce, and their business is commerce itself. They do their transportation in different ways, and their liabilites are, in some respects, different, but they are both indispensable to those engaged to any considerable extent in commercial pursuits."

The decisions of the Supreme Court establish the law of the land; and are as binding upon each and every department of

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the Government as upon the humblest citizen. Here, then, are two important decisions (including the one cited by the Chief-Justice) which define the telegraph to be so essentially a part of commerce that "its business is commerce itself." If it is commerce itself it can not be postal, any more than the railroads that carry the letters are postal. The power must, therefore, be looked for in the clause giving Congress "power to regulate commerce with foreign nations and among the States." And here, again, we have these two important decisions above referred to, defining the extent of that power. It was held that "the telegraph companies were subject to the regulating power of Congress in respect to their foreign and interstate business." This is a very important limitation of the power of Congress in the premises. It exists only "in respect to their foreign and interstate business."

With the exception of less than half a dozen great commercial centers, more than half the business of any telegraph station is done with offices within a radius of one hundred miles. Take such a station as Columbus, the capital of Ohio, or any other considerable town in the interior of any of the larger States, and more than half its business is done entirely within the State. As to business of this class, the Supreme Court has held that it is not even "subject to the regulation of Congress."

But the power to regulate does not mean, and was never intended to mean, the power to own the plant and carry on a commercial business between the States; and much less to conduct a local traffic within a State. The reservation of the power to regulate commerce among the States grew out of the apprehension that States might impose improper burdens or restrictions on traffic with other States. It was not enough to say that "No State shall, without the consent of Congress, lay any imposts or duties on imports or exports," etc.; but lest there might be imposed some other form of tax or hinderance, and in order that trade between the States should be maintained free and without incumbrance, Congress was given this supervisory power to "regulate commerce among the States."

If the Government can appropriate the telegraph and enter upon commercial traffic in this important branch of business, it may also assume to own the railroads and carry on railroad traffic; and if the railroads, then also the warehouses and grain elevators; and if these, why not the flour mills, and, with infinitely more public benefit, the bakers' shops also? For every one

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of the fifty-two millions of people is personally interested in the supply and low price of bread, while there are not half a million in the whole population that ever did use the telegraph.

It is not believed, and has never been judicially held, that this power to "regulate commerce among the States" goes so far as to authorize Congress to fix the price as between buyer and seller; and the business of railroads and telegraphs has been judicially held to be commerce. Therefore, Congress has never assumed to fix the rates of tolls or charges for transportation of freights or passengers, or for the transmission of messages; and in the act of 1866 it only assumed the power to fix the rates for Government messages by a contract with the telegraph companies. The power to regulate is precisely power to prevent unjust discriminations against a fair and open competition.

The further grant of power in the eighth section of the first article of the constitution, "To make all laws which shall be necessary and proper to carry into execution the foregoing powers," etc., cannot be drawn upon unless the power is found to exist. But, if it be determined that the Government shall enter upon a public telegraph service, then it has acquired the right and is under obligation to take the existing telegraph properties in the country at valuation, as provided in the act of 1866, nearly, if not quite, all the existing telegraph companies having accepted the provisions of that act. This act of Congress was quoted entire in the case of the Pensacola Telegraph Company *vs.* The Western Union Telegraph Company (96 U. S., 1), and was held to be "a legitimate regulation of commercial intercourse among the States." It is in the nature of a compact, requiring the acceptance of the telegraph companies, and is as follows, to wit:

"An act to aid in the construction of telegraph lines, and to secure to the Government the use of the same for postal, military, and other purposes.

"Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, that any telegraph company now organized, or which may hereafter be organized, under the laws of any State in this Union, shall have the right to construct, maintain, and operate lines of telegraph through and over any portion of the public domain of the United States, over and along any of the military or post roads of the United States which have been or may hereafter be declared such by act of Congress, and over, under, or across the navigable streams or waters of the United States: Provided, that such lines of telegraph shall be so constructed and maintained as not to obstruct the navigation of such streams and waters, or interfere with the ordinary travel of such military or post

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roads. And any of said companies shall have the right to take and use from such public lands the necessary stone, timber, and other materials for its posts, piers, stations, and other needful uses in the construction, maintenance, and operation of said lines of telegraph, and may preëmpt and use such portion of the unoccupied public lands subject to preëmption, through which its said lines of telegraph may be located, as may be necessary for its stations, not exceeding forty acres for each station; but such stations shall not be within fifteen miles of each other.

"SEC. 2. And be it further enacted, that telegraphic communications between the several departments of the Government of the United States and their officers and agents shall, in their transmission over the lines of any of the said companies, have priority over all other business, and shall be sent at rates to be annually fixed by the Postmaster-General.

"SEC. 3. And be it further enacted, that the rights and privileges hereby granted shall not be transferred by any company acting under this act to any other corporation, association, or person: Provided, however, that the United States may, at any time after the expiration of five years from the date of the passage of this act, for postal, military or other purposes, purchase all the telegraph lines, property, and effects of any or all of said companies at an appraised value, to be ascertained by five competent disinterested persons, two of whom shall be selected by the Postmaster-General of the United States, two by the company interested, and one by the four so previously selected.

"SEC. 4. And be it further enacted, that before any telegraph company shall exercise any of the powers or privileges conferred by this act, such company shall file their written acceptance, with the Postmaster-General, of the restrictions and obligations required by this act." 14 Stat., 221; Rev. Stat., sec. 5263 *et seq.*

The provisions of this act have as yet been of very little benefit to the telegraph companies, while the obligations they have assumed in accepting the act have been very onerous. The rates for government service have been reduced by the Postmaster-General from time to time under the provisions of the act, until government messages are transmitted at an absolute loss to the telegraph companies. The government service, including meteorological reports, requires the preferential use, several times per day, of over thirty thousand miles of wire; and all government messages have precedence of all other business as stipulated in the act. This very exacting service is required to be performed at rates of toll below the average cost to the companies of handling their entire business.

Government can do business at a loss by increasing taxation to make up that loss; and has not hesitated to do the postal service at great loss to meet the public outcry for cheap postage. It is scarcely conceivable that any government would do an act

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of such great injustice, to so large a portion of its citizens and to many citizens of other countries, who own the existing telegraph properties, as to establish a competing telegraph system to the detriment, or destruction, of the value of existing investments. Besides, the Government would labor under great embarrassments; for though the Morse patents have expired, all the best forms of telegraph instruments, batteries, and other appurtenances are protected by more recent patents, which the Government has no more right, than any citizen or corporation, to use without the consent of the owners. And this has been distinctly held by decision of the U. S. Circuit Court for the Southern District of New York, in the case of Campbell *vs.* James, for infringement in the use of a canceling stamp in the New York Post-office.

Now, the faith of Congress having been pledged in the act of 1866, which has been accepted by the telegraph companies, and by them faithfully observed for over sixteen years, at great cost to their revenues, the conclusion is forced upon any fair-minded man that, if the Government shall determine to assume the telegraph business at all, it can rightfully do so only by recognizing the act of 1866 as a contract, and electing to take existing properties and franchises in the form and manner and on the terms and conditions fixed by the provisions of the act of 1866.

Another reason for taking existing properties is, that whatever business the Government does, it must do it to the exclusion of other agencies; otherwise, the Government would either have to do business at a loss or be badly beaten by private enterprise. Chief-Justice Waite, in the decision in the Pensacola telegraph case, before quoted from, says: "It is not necessary now to inquire whether Congress may assume the telegraph as part of the postal service, and exclude all others from its use." This significant language of the court, while it implies a doubt whether Congress has the power, plainly indicates that, if the telegraph be assumed, it must be to the exclusion of all other competitors. And such has been the example of all the governments that own and operate the telegraph. The same doubt of power is expressed in the dissenting opinion of Justices Field and Hunt, in the same case, in a more significant form. They say: "We are not called upon to say that Congress may not construct a railroad as a post-road, or erect for postal purposes

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a telegraph line." This implies what they would say if they were called upon to adjudicate that question.

POLICY.—The question of public policy naturally divides itself into those of necessity and expediency. If it can be shown that the telegraph in this country, under individual and corporate management, is, in most respects, far ahead of the system in any other country; and that the public have a better, more prompt, and more generally accurate service, and at lower rates, taken as a whole, than is rendered by any government administration of the telegraph, then there is no public necessity for government intervention in the premises.

And if no such necessity exists, and it be reasonably shown that the service would not probably be so good under a government administration, and would not probably command the undivided confidence of all parties desiring to use it to the same extent; and if it be further shown that the telegraph is capable of great abuse for political purposes in the hands of any party that may happen to be in power, then it may be fairly concluded that it is inexpedient for the Government to intervene.

WIRE AND OFFICE FACILITIES.—It will be sufficient to compare the facilities for telegraph business in this country with those of the four leading countries of Europe most advanced in the science and use of the telegraph. The mileage of telegraph lines in these countries is as follows:

In Great Britain	23,000 miles.
In Germany	41,000 "
In France	36,000 "
In Austria and Hungary	30,000 "
In the United States	180,000 "

It will be seen that there have been established in the United States, by private enterprise, about fifty thousand miles of telegraph lines in excess of the aggregate mileage in all these great European countries. On the lines in the United States there are about 500,000 miles of wire, which is believed to be as greatly in excess of that in the countries named as the excess in mileage of lines. The population of the four countries named aggregates about 150,000,000, and that of the United States is about 52,000,000. While there is, therefore, an average of less than one mile of line for each 1000 of population in Europe, the

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people of this country have nearly a mile of line for each 300, and nearly a mile of wire for each 100 inhabitants. A comparison with each country separately would be about as favorable, Great Britain being somewhat in advance of the others.

There are in the United States about 14,000 telegraph stations, against 5700 on the British postal lines. In this country there is a telegraph office for each 3700 of population, while in Great Britain there is only a station for each 6700 souls. The proportion of offices kept open all night and Sundays is also very much larger in this country. This comparison demonstrates that, in wire and office facilities for conducting the business of telegraphy, the people of this country have a very great advantage over those of any country having a government telegraph system.

In the last report of the British post-office administration accessible to the writer, the progress made in ten years under government control was noted with not a little pride. The increase presented was: in miles of line, 17,507; in miles of wire, 51,861; in number of offices, 2843; and in number of messages, 20,017,147. In ten years ending with June, 1882, one company in this country shows an increase of 69,027 miles of line; 237,178 miles of wire; 6831 in the number of offices; and 26,379,748 in the number of messages. Thus the progress of a single company in this country shows a growth in one decade fourfold greater than that of the British postal system in length of lines; nearly fivefold greater in length of wire; more than twofold in additional offices, though the increase in the number of messages was only twenty-five per cent. greater than in Great Britain. The result is precisely what might have been expected — that the telegraph having kept pace in this country with the growing demand for its use, and the increased exactions for prompt transmission, there is a very much better service rendered in this country than under any government administration.

SERVICE.—Mr. Hueston, for many years connected with the telegraph service of the New York Associated Press, and who has probably sent and received more telegrams than any other patron of the business, says:

"It has been enforced upon my conviction by twelve years of intimate acquaintance with the business in America, and six years of continuous experience in the same business in Europe, that the average time of trans-

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mission on the Western Union Company's lines is shorter than on any system in Europe, or in any country in Europe; and that the number of errors made by American operators is much smaller than by European operators; and, in these respects and all others connected with the practical part of the telegraph service, the private companies have made steady and continuous improvement, while the tendency in Europe is to stagnate or to retrograde."

He adds, from the result of his large experience:

"Commercial messages of ordinary length, in the busy time of the day, are about two hours between Paris and London offices, exclusive of time of delivery. Between Antwerp or Brussels and London, about the same delay. Between Bremen or Hamburg and London, the time is about one hour. These are short and mostly single circuits, the delay arising entirely from meagerness of facilities. The average time between New York and London is far quicker than between Paris and London. A week's business, taken at random from messages transmitted by day and by night, yields the following results, the time in every case being the difference between time of filing and time of receipt on the instrument in London: Twenty-three messages from Rome average two hours and forty-three minutes; thirteen messages from St. Petersburg average one hour and fifty-six minutes; twelve messages from Vienna average one hour and forty-six minutes; seven messages from Brussels average one hour and ten minutes; thirty messages from Berlin average one hour and seven minutes; fifty-eight messages from Paris average one hour and one minute; thirteen messages from Amsterdam average fifty-six minutes. Telegrams from Constantinople average about four hours; from Madrid, take anywhere from one to five hours. The messages on which the averages are struck do not vary much from a total of forty words."

What would the commercial people of this country think of that kind of service? The time required for the transmission of messages between the great commercial centers of this country has been reduced to from one to four minutes; and between the great produce exchanges and boards of trade, to fractions of one minute.

In accuracy we are far in advance of the government systems. In this country, complaints of errors and mishaps average one for every five thousand messages sent, or the fiftieth part of one per cent.; while one scarcely ever receives a message on the other side of the Atlantic that has not some "error," requiring a guess at the word intended. Complaints are unavailing, as governments acknowledge no responsibility. Some months ago, a writer in "Blackwood's Magazine" filled ten pages with samples of errors on the European lines which had fallen under his observation; and the London "Times," in a lengthy article

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declared the Government telegraph a failure, and pointed out the great want of accuracy and lack of public accommodation. Nearly all the great inventions and improvements in the art of telegraphy, within the past thirteen years, have been made in this country and under the stimulus of private enterprise.

RATES OF TOLLS.—There is no greater mistake than the popular declaration that telegraphing is very much cheaper in Europe than in this country. On the contrary, it is very much more expensive. The minimum rate of one shilling in Great Britain, and a sum in other European States equal to about twenty-five cents of our money, for messages between all points within each country, carries a very small volume of business a little greater distance than it can be transmitted here at as low a rate. But there is a considerable telegraph business done in this country at a ten-cent rate and a larger amount at a rate of fifteen cents; while for long distances the rates in this country are very much lower than in any part of Europe. The following table exhibits the rates per word from London to the several countries enumerated:

Austria	700	miles,	9	cents	per	word.
Belgium	200	"	4	"	"	"
Denmark	500	"	8	"	"	"
France	200	"	5	"	"	"
Germany	500	"	6	"	"	"
Holland	200	"	6	"	"	"
Italy	800	"	10	"	"	"
Norway	700	"	8	"	"	"
Roumania	1200	"	10	"	"	"
Russia in Europe	1400	"	18	"	"	"
Switzerland	400	"	8	"	"	"
	6800	"	92	"	"	"

Paris is about the same distance from London that Boston is from New York. We charge for a message between New York and Boston (and indeed all points in New England) twenty-five cents, which message with date, address, and signature free, averages seventeen words. A like message between London and Paris would cost eighty-five cents. Vienna is about the same distance from London as Chicago from New York, between which latter points our rate is fifty cents. From London to Vienna, a like message would be $1.53. To St. Petersburg, which is about

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the same distance from London, that Omaha is from New York, the message would cost $3.06 against our rate of seventy-five cents.

The maximum rate in this country for carrying a message from Halifax, N. S., to Washington Territory, a distance of 4000 miles, is $1.50 for an average of seventeen words. It is difficult to find a comparable service in Europe that does not pass through long cables belonging to private companies; but the government land rates united would be four times as much as our rate. All international messages are charged at word rates, which are much higher for long messages than the combined local rates. Hence there does not appear any reason for public complaint of the cost of telegraphy in this country.

One of the strongest arguments for a government telegraph has been that the telegraph system throughout the country should be made a unit, under one general direction. Undoubtedly this would contribute to the improvement of the public service, and yet one of the very grounds of complaint is that one company has done so much toward unifying the telegraph service.

DANGERS.—The argument for the monarchical governments of Europe controlling the telegraph was, that as an element of power it was a great protection against the plots and schemes of disaffected and opposing elements or parties. These elements, threatening the stability of the Government, could not be allowed the advantages of the telegraph, and dare not use it. The peace of society and the prosperity of the country are involved in the stability of the Government and the security of its rulers. The genius of our Government is, that the people rule; it is, therefore, averse to the administrative power, for the time being, having any such advantage in directing or controlling the popular will. The telegraph would not only double the power, by way of patronage, of the Post-office Department, but would give the administration party immense advantages in warmly contested elections. Who can say that sooner or later there would not be an espionage of telegrams instituted? But, even were it administered with the most sacred impartiality and inviolability of the privacy of messages, the opposing party would never believe it was so administered, and would not venture to use it in the private arrangements for the prosecution of the contest.

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It is scarcely probable that any administration of the telegraph will ever render entire satisfaction to everybody who uses it. That the government administrations have not done so may be further shown by the following extracts, the first from an article which appeared in the London "Times," and the second from a speech by John Pender, Esq., M. P., whose opinions are entitled to the highest consideration, and whose capacity and opportunities for forming a correct judgment in the premises are equal to those of any man living.

The "Times" article says:

"It can hardly be doubted but that, if the telegraphic wires of the country were in the hands of private companies and were adminstered by private enterprise, instead of being a government monopoly, the public would gain largely in rapidity, cheapness, and extension of telegraphic communication. It appears more than doubtful whether the monopoly given by Parliament, and the purchase by the Government of the telegraph lines in the United Kingdom, have not proved to be errors, and whether the time will not shortly arrive when the administration of telegraphs should be taken out of the hands of the Government and again intrusted to private enterprise."

Mr. Pender says:

"I have thought it desirable to refer to my visit to America, and say something about the Western Union system, because it is a system which is, probably, in its efficiency, only to be compared with our own system in England, which is worked by the Government, with this difference, that being worked as a private enterprise, and being stimulated more or less by competition, I think the Western Union have shown greater results during the last ten years than our system has under government management. I think the science of electricity has received more encouragement and been more developed, and the reduction of rates has, during that time, also been greater in America than in England; and, altogether, I think it would be well if our Government took a leaf out of the book of the Western Union Company."

It is hoped that the Government and people of this country have not entirely forgotten that sage maxim of President Jackson: "That country is governed best which is governed least."

NORVIN GREEN.

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JOHN BROWN OF OSAWATOMIE.

WHETHER John Brown was right in his invasion of Virginia, in 1859, is a question upon which good men may always differ. The movement was designed to excite insurrection among slaves, which in a legal sense may have been treason against the State. A number of men were killed, and a jury found the old commander guilty of murder. A rebellion that is successful is always washed clean of the stains of bloodshed and treason; but where the revolt is checked in its beginning, the leaders usually suffer immediately, and, for one reason or another, their names are seldom greatly honored. To John Brown the fates have been unusually kind. His story fell upon a time when the world was eager for a hero, and when the people of the northern United States must make one of whatever material came to hand. It will be remembered that we were ready, early in the war of the great rebellion, to worship General Scott, or General McClellan, or Sigel, or Fremont, or Grant,—anybody who would show any activity or earnestness in fighting the South, or any real hatred of slavery. To hate slavery, and to be ready to fight, these were the virtues in those days that, especially in New England's eyes, covered a multitude of sins. Here was a man who had fought slavery for years, in Kansas, in Missouri, in Virginia, and had died a martyr to his principles. The very fact that he had fought unlawfully added to his glory. No doctrine has ever been dearer to New England than the doctrine of the "higher law." This is an invisible and unwritten law which each man must find for himself, read and interpret for himself, and obey in his own way. If it leads him to disobey certain human enactments, so much the better; if it even leads him to treason and rebellion against his country, *he* at least is right, however wrong his acts may seem in the eyes of men. The acts of John Brown fitted this doctrine admirably;

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indeed, he himself was no mean exponent of it, either with voice or pen. His defense of himself was on this line wholly. He had resisted "bogus" laws in Kansas; and the laws of Virginia sanctioning slavery were bogus also in his view. He was above all such laws; he had done right in breaking them; he had done no wrong even in killing men, because his motives were good. He scouted the idea of insanity, and he set his individual judgment against all the law books of Virginia, and staked his life on the issue.

The attitude was heroic. The man bore himself like a hero from the time his schemes failed till his death; and every word that he spoke was in such perfect accord with the doctrine of the higher law, that every sentence thrilled New England as though a prophet were speaking the very words of God. There arose in his defense, and to sing his praises, a company of men and women whose peers did not exist in America. They have made our history and written it, and they have made our literature. They made the public sentiment that abolished slavery. They held the pen that awakened those who bore the sword that preserved the Union. When these men said, John Brown is a hero and a saint, the bravest and the cleanest of all the heroes of ancient or modern times, there was nothing for it but to accept the verdict.

It was not accepted hastily. Very many newspapers lamented the affair at Harper's Ferry as extremely unfortunate; and "fanatic" and "crazy old man" were the terms commonly applied to the old hero for fully a year after his death by all except those who were known to hold extreme antislavery views. But during the war all was changed: these extremists became our trusted leaders, and their version of the John Brown affair became accepted history, and, as such, it has passed into encyclopædias and biographical dictionaries, not only in this country, but in England and Europe. The war has now been over for nearly twenty years. A new generation is upon the stage reading and thinking, and the deeds of Old John Brown have a new interest as they pass again under review taking the form of final history. It is a time of revaluation of our war heroes, and some will gain in our estimation, and some, no doubt, will lose. This younger generation that is weighing, and sifting, and revaluing the deeds and characters of the men of twenty years ago may not love truth more than those who made the records that

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we read, but they probably need heroes less. The *Zeit-geist* has now more to say of science and fact, than of right or valor. Not that these latter terms are meaningless, nor that there is forgetfulness of what they signify, nor indifference toward such conceptions in ethics or qualities in men; but the keenness of interest now is all in the direction of getting at the exact facts of every case, let them be what they may.

Under the influence of this spirit there has been a growing impression that the deeds of John Brown do not warrant all the eulogies that have been pronounced upon him. Emerson spoke of him as the "saint whose martyrdom will make the gallows glorious like the cross."* Thoreau said, "He could not have been tried by his peers, for his peers did not exist." Theodore Parker wrote from Rome, "Brown will die, I think, like a martyr and also like a saint. . . . None of the Christian martyrs died in vain; and from Stephen, who was stoned at Jerusalem, to Mary Dyer, whom our fathers hanged on a bough of 'the great tree' on Boston Common, I think there have been few spirits more pure and devoted than John Brown's, and none that gave up their breath in a nobler cause. Let the American State hang his body, and the American Church damn his soul, still the blessing of such as are ready to perish will fall on him, and the universal justice of the infinitely perfect God will take him welcome home. The road to heaven is as short from the gallows as from a throne, perhaps also as easy." These men were the radical abolitionists of the time, to be sure; but as has been already said, their words and sentiments were adopted during the war period by the entire North, and since then largely by the civilized world.

But to the average citizen of to-day such extravagant eulogy of a doubtful character is distasteful. The mention of the name of John Brown no longer brings down the house, and for two or three years a spirit of doubt has been slowly spreading eastward from Kansas whether the man deserves any eulogy whatever. John Brown was a disturbing influence in Kansas from the first. He went to the territory not as a settler, but to fight. His voice was always for war, and he probably was more anxious to fight Missouri than to make Kansas free. Those who had gone to Kansas to make homes and build a State naturally felt very dif-

* As quoted in Redpath's Life of Brown, page 4. The present writer would be glad to know that Emerson did not use just this language.

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ferently. They would fight if it became necessary in support of their principles, or in defense of their rights; but a general war with Missouri, or the South, was last and least among the things desired or hoped for.

It will be remembered that the first territorial legislature was elected fraudulently by voters who actually lived in Missouri. This body of law-makers assembled first at Pawnee in July, 1855, but immediately moved to Shawnee Mission, near the Missouri border, where they completed their labors in a proslavery atmosphere and in the most shameless proslavery fashion,—establishing the entire code of Missouri as the laws of Kansas and adding whatever beside they could think of that they believed would aid in the establishment of slavery in the territory. These were the "bogus" laws resisted from the first by the Free State party, but they received in due time the approval and sanction of President Pierce. Then it became a very serious question what was to be done. A few extremists were in favor of resisting these laws to the bitter end, even to the point of fighting United States troops. But the wiser and more moderate policy of submitting for the present and fighting out differences at the ballot-box finally prevailed, having all along had the support of the very best citizens, even the most earnest abolitionists. John Brown was among those who scouted the voting policy and urged an armed resistance to the fraudulently enacted laws. Not that his voice was heard in the councils of the time, as he was then an unknown and unnoticed man, but it was afterward remembered that he had always been numbered among the revolutionists. The leaders of this fighting party, so far as it can be called a party, were not citizens generally but correspondents of Eastern newspapers, and people who, in various ways, lived upon money sent from the East to help make Kansas a free state.

On the 21st of May, 1856, occurred what is known in history as the sacking of Lawrence. The Free State Hotel was shot through with cannon balls and afterward burned. The two Free State printing-offices were destroyed, many private houses pillaged, and that of Dr. Robinson, then "governor," according to the Topeka or Free State faction, burned. This was done by a band of nearly eight hundred men, partly United States troops commanded by Federal officers, but largely a mob of men from nearly all the Southern States, who had come on their own account to "wipe out the abolition town." There was no resist-

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ance, and nobody was killed except by accident. A peace policy had been resolved upon and was strictly carried out by the Free State men, though it cost them heavily that day.

While these events were taking place in Lawrence, two companies of riflemen were being organized in the adjoining counties of Franklin and Miami to come to the defence of the ill-fated town; these were the Osawatomie company, commanded by a Mr. Dayton, and the Potawatomie company, whose captain was John Brown, Jr. Both companies started for Lawrence, and they met on the way and continued their march all night. On the morning of the 22d, old John Brown was with these armed men near Palmyra, within twelve miles of Lawrence. It is not quite certain whether he started with one of the companies or whether he met them on the way. On this Thursday morning they heard that Lawrence had fallen on the day before, and were undecided most of the day whether to go forward or return. It was toward the evening of this day, in the camp of his son's company on Ottawa Creek, that old John Brown called for volunteers "to begin the war in earnest." He wanted only brave men, and men who would obey him implicitly. There was hardly any response to this call, perhaps not a single man answered. But the old warrior was not to be baffled. He had five sons present and a son-in-law; these, at least, he could command. John, Jr., however, protested against the movement, saying that the men could not be spared, as they were now near the enemy. Then the other four sons, Owen Brown, Watson Brown, Frederick Brown, and Oliver Brown, and the son-in-law, Henry Thompson, went into camp by themselves, with their father and captain, and spent most of the next day (Friday) in grinding their sabers. About noon, old John Brown went to a man by the name of James Townsley, who was in one of the rifle companies, and who had a wagon and team, and asked him if he would, with his wagon, take a company of men back to the Potawatomie that afternoon. Townsley agreed to do so, not knowing what was to be done. So, at about two o'clock they started, with their rifles and revolvers all loaded and their swords newly sharpened. It is said that they were cheered on their departure by the rifle companies, which is not unlikely, as the nature of their expedition was not known. John Brown, Jr., however, said, "Father, be careful; do nothing rash." Townsley had in his wagon only the Brown family, including the son-in-law, Thompson. There

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was another man in the company, whose name was Winer, who rode a pony; whether he had volunteered and agreed to obey or not, we do not know. It is not probable that any of the men at this time knew exactly what they were going to do. It was the Brown family obeying their father, as in duty bound, with a teamster in their employ and a neighbor joined to the expedition, probably because it was going toward his home.

When they camped that night they were near the Potawatomie Creek, and here old John Brown revealed his plans for the "war." He asked Townsley to guide them up the creek some four or five miles, into the neighborhood where he lived, and show them the houses of all the proslavery men, saying that it was his intention to sweep the creek as he came down of all the proslavery men living on it. Townsley refused to become even the guide of any such expedition. On account of this refusal the party staid in camp all that night and the next day, talking the matter over. It seemed to Townsley, and probably also to some of the other young men, that this sort of killing was murder. Old John Brown urged that it was necessary as a war measure: it was time for the war to begin in earnest; war there must be to abolish slavery; God had foreordained him to begin it. Once a decisive blow was struck, the fatal peace policy inaugurated at Lawrence would be at an end, and the Free-State men would be obliged to unite and fight Missouri. The end of the matter was, that late on Saturday evening Townsley yielded, either to force or argument, and acted as guide upon an expedition much less extensive than had been originally planned, but sufficient, surely, to cover the name of John Brown with infamy forever.

The first victims of this murderous foray were found in a family named Doyle, residing on Musquito Creek, which empties into the Potawatomie. Here Townsley, Winer, and Frederick Brown remained outside the house, while the Captain and the rest of his family entered and brought out James P. Doyle and his two sons, Drury and William. These "prisoners" were taken along the road toward "Dutch Henry's" for about two hundred yards. Here the Captain gave the order for their slaughter, but it was either misunderstood or disobeyed. Old John Brown then himself drew his pistol and shot the father, James Doyle, in the forehead. Watson and Oliver Brown then fell upon the younger Doyles, and William fell dead at the first cut of one of those murderous heavy sabers. Drury Doyle started to run to

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the house, but was overtaken by his assailant and cut down. There was a younger brother of the Doyles, then sixteen years of age, in the house, whose life was spared at his mother's tearful entreaty.

From this place the "Northern army," as the commander styled the little band, proceeded down the creek to the house of Allen Wilkinson, which was entered in the same manner and by the same men. Mrs. Wilkinson was at the time sick with the measles. When the men rapped at the door, she begged her husband not to open it. The men outside asked him to come out and show them the way to Dutch Henry's. He replied that he could tell them just as well without opening the door. The Browns then commanded him to surrender in the name of the "Northern army," and to open the door or they would break it open. The door was opened, and four men entered and searched the house for arms, taking a gun and powder-flask. They then told Mr. Wilkinson to put on his clothes and go with them. He protested, saying that his wife was sick, and that he would remain at home and be ready to answer to any charge against him whenever wanted. Mrs. Wilkinson entreated, but the Captain said, "It matters not," and marched her husband away, without even giving him time to put on his boots. He was killed about one hundred and fifty yards from the house by the younger Browns, acting under the Captain's orders.

At about two o'clock in the morning the party reached Dutch Henry's Crossing, and knocked at the door of a house where were four men sleeping and a woman and children. The names of the men were James Harris, William Sherman, Jerome Glanville, and John S. Whiteman. The "Northern army" announced itself as usual, commanded surrender, inquired about other proslavery men, about arms, saddles, horses, and whether the men present had ever aided proslavery men in coming to the Territory, or done the Free-State party any harm, or intended to do it any harm. Satisfactory answers were received from Harris and Whiteman, and they were allowed to remain where they were found. William Sherman was killed in the same manner as the younger Doyles and Wilkinson. The horrible gashes made by the broadswords or sabers of the Browns gave rise to the story that the victims were mutilated; but there is no reason to think that the bodies were hacked or cut after life was extinct. The "Northern army" now, with a single prisoner, Jerome Glanville,

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retraced its steps to the camp of the previous evening, where the wagon and horses had been left. They breakfasted there and remained in camp till nearly noon.

As the early light of that Sunday morning, May 25, 1856, came over that new land, so lately a wilderness, showing here and there at wide intervals a cabin, with a little field of planted ground, it revealed five ghastly corpses lying in the grass. Two widows, with their fatherless children, were weeping over their dead. They knew then what the world does not know even yet, that this was the work of John Brown. And the same morning light found the stern commander of the army of seven in camp with his men and prisoner. As he lifts his hands to heaven to ask a blessing on the food, the "dried" blood of his victims is seen upon them by the prisoner. The prisoner was set at liberty during the morning, but was a little too free in what he said about the Browns, and was shot not long afterward, near Black Jack, while on his way to Kansas City in a wagon. His death was, of course, attributed to the Browns, but this is not clearly established, and probably never can be. He may have been mistaken about the blood on the old man's hands as a literal fact, but the stain upon his character from that night's work can never be washed away. And it ought not to be forgotten, overlooked, nor forgiven. It is right at this late day to publish it to all the world, and let the story have its full effect upon the young who are forming their estimate of the man.

The story as here related is true beyond a doubt in all essential particulars. It rests upon the testimony of no single witness, but upon the perfect agreement of many. Its truth was confessed by Brown himself explicitly upon one occasion, implicitly many times. The killing of these men was never attributed to anybody else, and nobody in Kansas doubts that it was done under John Brown's authority.

The community at first was startled and shocked by the reports of these midnight murders. Old John Brown and his company of seven arrived at the camp they had left on Ottawa Creek about midnight between Sunday and Monday after the assassinations. The news was known there the next morning, and John Brown, Jr., immediately resigned his command of the rifle company, mounted his horse and rode away home. He was soon after arrested for this crime and severely used, it is said, being driven, chained, many miles in the hot sun until he became

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insane. His father used to show the chain in the East on his money-raising excursions, and showed great emotion in narrating John Junior's sufferings and consequent insanity. He may well have shown emotion. That son suffered for his father's crime, which at that very time he was hiding and denying. Insane, a raving maniac, for awhile John Junior certainly was, as his fellow-prisoners testify. And the form of his raving was all connected with this affair. "When the conversation turned, as it sometimes did, upon the Potawatomie murder, and we attempted to excuse his father for that act, giving the mitigating circumstances current among the Free-State men at the time, his eyes would sparkle with unwonted brilliancy, his manner would assume the wildest excitement, and, in a loud and boisterous voice, which was uncommon to him, he would exclaim: 'Do not attempt to offer anything in palliation of such a crime. Nothing can exuse it. It was unequaled in atrocity and displayed only cowardice. Had the same deed been done in open day it would have shown more manliness, but to call men from their beds at midnight and to cut them down in cold blood is infinitely more savage than was the chopping in pieces by a drunken rabble of R. P. Brown at Easton.' And thus he would run on for a long time, much more vehemently than we can possibly describe." So speaks G. W. Brown, a fellow-prisoner, in the "Herald of Freedom" for November 5, 1859. The condemnation of old John Brown in this is a little too methodical for madness, it may be; but there are other witnesses that his ravings were like this in substance.

The effect of these murders was very great upon the community and on the fortunes of Kansas; but it was not at all what the commander of the "Northern army" anticipated. He expected to precipitate a revolution; but instead of this, the abolitionists of Lawrence, even, almost unanimously denounced the deed. Public resolutions were passed concerning the matter, lamenting it as most unfortunate. The Missourians, however, came on, inflamed with righteous wrath, hunting old John Brown and his boys, ready to shoot them at sight. Frederick they did shoot thus, and they burned the cabins of all the Browns and all their kin, drove away their stock, and took vengeance upon them in whatever ways they could. Brown's resistance, and how he fought at Black Jack, are well known. It is not generally understood, however, that all this fighting at Osawatomie and Black Jack grew out of the Potawatomie

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assassinations. The impression was really made in the East at the time, and has prevailed since, that the Potowatomie affair was in retaliation for these abuses and outrages committed upon the Browns by the Border Ruffians. But our theme now is not so much the effect of this affair upon Kansas as its bearing upon the character of Brown himself and its importance as a factor in making up our judgment concerning his career and greatness. Still, if the result of those murders had been good, and had that good been foreseen and foretold by Brown, it would be something in his favor. But this cannot be said. What Brown thought he foresaw never came; there was no revolution, and not a slave was freed. Only evil to Kansas resulted, so far as can be judged with any sort of certainty.

The effect of this crime upon the character and career of old John Brown was pervasive, decisive, overwhelming. After that night he knew that his life was forfeit; and he fought, and begged, and planned with a desperateness born of his danger. He could not live in Kansas, he could not live safely or peacefully anywhere. He must fight on to the end now. The Rubicon was passed. He cut off his long beard, probably as a disguise, and sought help in New England, reciting the woes of his family, but concealing their cause. His desperate earnestness won the confidence and the hearts of some of New England's greatest and noblest men. Had they known fully what he was and what he had done, or even what he intended, they would not have armed and helped him as they did.

In 1857, it was believed in Kansas that there was a secret plot for the massacre of the members of the Lecompton Constitutional Convention. This convention was very odious to the Radical wing of the Free-State party. Old John Brown was at the time hovering on the border of Missouri, in Iowa, waiting for a signal to come and assist in the bloody work. The plot was discovered and failed, and again Brown was disappointed. Such a plot, had it been executed, would have been in the line of his plans and expectation. Such was his idea of beginning a war against the South. After this failure, he ventured again into Kansas, and made a sudden raid into Missouri and captured some slaves, which he took safely to Canada. A peaceable and unarmed man was killed on this excursion — not intentionally, it is said. But Brown referred to the matter in his dying speech, and said these

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slaves were freed without harm to any one, "without even the snapping of a gun." His accounts of his exploits before his Eastern friends, never modest, were seldom truthful. The real hero of Black Jack was Captain Shore. Osawatomie was not a victory, but a defeat of the Free-State party, and no particular bravery was shown by anybody. Old John Brown ran away in time to save his life, which was all well enough; only there is a popular impression that he did great things at the "Battle of Osawatomie." That fight, the pillage, and the burning were in consequence of his crimes, and for the whole he deserves censure rather than praise.

At the time of Brown's execution in Virginia, which was called in Boston his public murder, while the deluded abolitionists were exalting to the skies a man they did not know, a Free State paper, "The Herald of Freedom" of Lawrence, was printing the plain unvarnished truth about him and begging the Republicans of America not to make a hero of him. Boston replied: "Of course, the *small men* in Kansas can see no greatness in Brown. Those who live near a hero never know him, he is often rejected by all of his generation. The distant view is the true view. Here we get the man in true perspective and his greatness is clear as sunlight." Against these generalities we will not argue, for they doubtless contain a measure of truth; but as applied to Brown they are fallacious wholly. Viewed in the largest possible way, there is little that is admirable in this man's character; and if our civilization is worth anything, his entire public or fighting career is to be utterly condemned. It was right for Free-State citizens in Kansas to defend their homes; but old John Brown never had a home there to defend, and his influence led most of his sons to early graves. It may have been justifiable to steal slaves from their masters and free them; such is the writer's opinion; but in this sort of work Brown never acted with any discretion, not even with common good sense, if freeing the slaves had been his chief object. But his real object, from the fatal night on the Potawatomie till his death, was to provoke the South and to commit the North to violence and bring on a war. He did not do it; and, dispassionately weighed after twenty years, the verdict of thoughtful men must be that his influence in bringing on the war that afterward came was infinitesimal. That war was brought on by Northern votes and Southern secession. The war sentiment caught up the name of

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Brown and glorified it, but the man himself was all wrong in principle and practice.

His principles were those of the Russian nihilists—first make a clean sweep of the present civilization, and let the future build what it can. Surely such a man is not a proper hero for the youth of our country to worship, and we believe that as his true history, too long concealed, becomes known, admiration for him will be changed to disgust, and disgust to anger, that we have been so long deceived.

DAVID N. UTTER.

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SOLAR PHYSICS.

A PROCESS is always going on among the various branches of Physics not very different from that which obtains among the various tribes of men. Just as the latter are gradually becoming civilized and passing under the yoke of law, so the former are, in their way, gradually submitting to discipline and passing under the yoke of rigid mathematics. Acoustics, light, and heat were long ago brought in, and quite recently electricity has been forced into submission by the united labors of Faraday, Maxwell, Thomson, and others.

There are, however, two formidable tribes of scientific verities which have hitherto persistently hung around the borders of scientific civilization, not submitting to anything like proper restraint, and these are the inhabitants of the very big and the very little. The former concern themselves with the movables of the earth, which they drive about in a capricious and inexplicable manner, putting us often to much inconvenience and very great loss. The latter have to do with the almost infinitely small—with molecules and atoms, which they conjure about after a manner that defies our powers of mathematical analysis. Meteorology and chemistry are the names by which we designate these two classes of phenomena; and, however important and interesting may be the preliminary advances that have been made toward their subjugation, it certainly cannot be said that either has been content to pass under the yoke. Now the statement may sound strange, but yet there is reason to think that both of these will yield most readily if approached from the side of solar inquiry.

The sun's surface is a platform on which gigantic meteorological displays are continually taking place, and it is likewise a laboratory in which chemical changes are brought about of a nature which we, on this earth, are utterly unable to imitate, perhaps even to comprehend. Nor is it merely as distant specta-

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tors that we must regard the sun, beholding through appropriate instruments these gigantic processes and deriving instruction from the sight. We must look to him as the heart and soul of our system, believing that what takes place there will speedily affect ourselves; and thus it happens that solar inquiry is not merely a branch of speculative physics tending to throw light on certain outstanding problems, but likewise a deeply interesting subject of great practical importance. Our readers will thus perceive that there are two sides to solar physics. There is first what may be called the elder branch, treating of the large or molar motions which take place on the sun's surface, and there is next the younger branch, which concerns itself with the sun's chemical changes, a branch which has recently been greatly advanced through the labors of Kirchhoff, Janssen, Lockyer, and others. We will confine our remarks to solar physics on the large scale, giving our readers an account of the greater visible phenomena of the sun's surface and of the variations of these; and concluding with some remarks on the effects which solar changes appear to produce upon the earth's surface and upon ourselves.

Soon after the invention of the telescope, the existence of black spots on the sun's surface was rendered certain through the observations of Galileo, Fabricius, and Scheiner; and their behavior was speedily made use of in order to prove the rotation of the sun around his axis in a period of about twenty-six days. But the first methodical observer of these phenomena was the late Hofrath Schwabe, of Dessau. Fifty-five years ago he set himself to the task of obtaining, every clear day, sketches of the sun which might approximately record the positions and sizes of the various groups of spots. For more than forty years he continued to labor at this task with true Teutonic perseverance, until at length his exertions were rewarded by the discovery of the unmistakable periodicity of these phenomena. During some years he found the sun to be almost free from spots, while on other occasions the disk was marked with very frequent groups, the period from maximum to maximum, or from minimum to minimum, being nearly eleven years. From the observations of Schwabe and others, it would appear that 1828, 1837, 1848, 1860, and 1870 were years of maximum outbreaks; while 1833, 1843, 1856, 1867, and 1877 were characterized by a nearly total absence of spots. We are probably now approach-

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ing, or about to pass through, a period of maximum, after emerging from one of minimum frequency (1877) of a continuance quite unprecedented. Carrington followed in the steps of Schwabe, and his observations give us a very accurate record of the spots which appeared from 1854 to 1860 inclusive.

To Rutherfurd and De La Rue the credit is due of introducing solar photography, by means of which observations of unimpeachable accuracy can now easily be made. Already a very large number of solar photographs has been obtained in various places, as may be seen from a catalogue published by the English Government in the Report of a Committee on Solar Physics. This scattered information should be gathered together and utilized as speedily as possible.

But it is now time to tell our readers what a sun spot really is. Professor Wilson, of Glasgow, made in 1774 an observation which at the time greatly startled the scientific world. He found that sun spots behaved exactly as if they were caverns with sloping sides dug into the body of the sun. To enable the reader to appreciate this argument, we ought to state that a typical sun spot consists of an intensely black inner nucleus surrounded by a less black border. Now, the sun revolves on his axis in about twenty-six days, the motion being from east to west. A spot therefore will take about thirteen days to travel across the visible disk or hemisphere of our luminary, and will come on at the left-hand border or limb and disappear at the right, provided always it continues to exist so long. Now Wilson noticed that, when a spot is near the limb, the penumbra on the side nearest the sun's visual center is hidden from the view, on the same principle, he contended, which makes us, when looking into a silver jug, for instance, from one side of it, see only that side which is furthest from the eye, the side which is nearest being hidden from the view. In fine, he imagined that sun spots were caverns, of which the umbra formed the bottom and the penumbra the sloping sides. We may add that they are certainly cloud-pits and not caverns in solid matter. The conclusions of Wilson have been abundantly verified by Mr. De La Rue and his colleagues, who have likewise shown that the bottom of a sun spot is blacker than the general solar surface because it is colder, and that it is colder because it is caused by a down-rush of comparatively cold matter from the more elevated regions of the solar atmosphere, just as a terrestrial hailstorm

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coming down from above would appear black because it was cold, if the earth were to shine by its own light.

Now, a down-rush implies an up-rush, and a down-rush of comparatively cold matter from above implies an up-rush of comparatively hot from matter beneath. We might therefore expect that sun spots would be supplemented by complementary phenomena presenting a peculiarly bright appearance. Such are found in the faculæ (torches) which almost invariably accompany spots, at least when they are of considerable size. And we have evidence from various quarters that these bright patches are high up in the solar atmosphere, and that they have made their way upward from beneath. They form, in fact, the up-rushes of hot matter of which we have been theoretically in search.

Sun spots are, as we have stated, only occasionally present on the surface of the sun, and we have now to add that they confine themselves to definite solar localities, being grouped more or less strictly round the equatorial regions and never by any chance appearing at the poles. There are, nevertheless, analogous phenomena on a smaller scale which are quite generally distributed over the whole surface. This, when viewed through a powerful telescope, is far from uniform in luster, and is seen to be made up of very numerous and small black and bright patches, which cause it to present a mottled appearance. Sir William Herschel was the first to remark this, and he further believed the *pores*, as he called them, to be of the nature of small spots, a conjecture which recent research with the spectroscope has abundantly verified. It thus appears that the solar disk presents us with two scales or orders of similar phenomena. We have, in the first place, the minute black and white patches generally distributed over the surface, while, on the other hand, at selected times, and in selected regions, we have spots and faculæ on a scale frequently gigantic. But whether small or large, we cannot err in regarding the black patches as representing down-rushes of comparatively cold matter from above, and the bright patches as representing up-rushes of comparatively hot matter from beneath.

Here it is evident that we have been hitherto describing phenomena as they appear projected upon the luminous disk of the sun; and although we know that the umbra of a spot is low down and the facula high up, how low down and how high up we shall find it difficult to decide. Suppose, however, that we now

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turn from the disk itself to the region round about it, might we not expect the tops of the ascending currents to project themselves into this region and to stand out boldly beyond the sun's visible limb? In this region, however, we are at first sight prevented from observing anything on account of the glare of light which surrounds it, this glare being caused by reflection from the earth's atmosphere. Now, there are two ways of getting rid of this glare. One is by means of a total solar eclipse, during which the sun's light is withdrawn from the earth's atmosphere; the other is by using the spectroscope, which has the power of diluting the glare while it cannot so dilute the light of the solar up-rushes. By such means we see the up-rushes standing out like red flames from the limb or border of the sun, often with fantastic shapes like columns or trees of fire, extending also on rare occasions to the height of a hundred thousand miles above the sun's border, and moving at the enormous rate of a hundred and fifty miles per second. If we add that a large sun spot is capacious enough to swallow up fifty or sixty masses equal to our own earth, our readers will have some faint conception of the scale of these phenomena. It would thus appear that a minute study of the sun's surface increases, at first sight, rather than diminishes the astonishment and perplexity with which we regard the doings of our luminary. We are presented with two wonders instead of one. It has of course been long a standing puzzle, by what means the sun has been able for many millions of years to pour out continuously an amount of light and heat so vast that the imagination can hardly grasp its measure. And now, in addition to this, we have to account for these gigantic up and down rushes which observation reveals in the solar atmosphere.

It is, however, a hopeful sign when such wonders go in couples, for then we may use the one to explain the other; let us, therefore, see what we have got before us in the present instance. We are first induced to ask, by means of what wonderful machinery is the sun enabled to dispense continuously for millions of years its enormous outlay of light and heat? Then, secondly, what can be the meaning of those gigantic up and down currents which take place in the solar atmosphere? The reply is, these gigantic currents form the very machinery of which we are in search, and enable the sun to do his duty. For, let us reflect what is necessary in order that our luminary

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should continue to give out light and heat. In the first place, if the sun were merely a hot solid, like incandescent carbon, it has been calculated by Sir William Thomson that his surface would grow cool in a few minutes. It is quite clear that the state of things must be very different from this. The sun is a citadel of light and heat, and has an incessant warfare to wage with the deadly cold of space, and the conditions of this celestial warfare are not very different from these with which we, on this earth, are only too well acquainted. Now, a fortified position may be perfectly filled with men, all of them armed with muskets; but they may be so crammed together that, when the front row have fired their shots, they cannot move backward, while the row behind cannot move forward to take their place. In such a case the result is not difficult to foresee—a total collapse will very speedily be brought about, because the conditions essential to success have not been attended to. There are, in fact, too many men. It is the same with the solid sun; the front row of particles give out their light and heat, and there they remain, being unable to do anything more themselves, but preventing, at the same time, the row behind them from doing anything. Now this will never do. The front particles, when they have fired their light and heat shots, must have the means of promptly retiring to recruit themselves from the inexhaustible magazine within, while the row behind them must promptly take their place, and when they have done their duty retire in their turn to make room for another row, and so on. The more vigorous this transport service, the more effective will be the result. Now in the up and down rushes, we have this transport service visibly represented, and the astonishing activity of the sun in giving out light and heat is only equaled by the astonishing activity of this service; in fact, the one necessarily implies the other. Our readers are, however, not quite satisfied. They see well enough that these gigantic currents are quite essential to the sun's well-being, but they would like to know how they are brought about; the bellows blows up the fire, but who or what works the bellows? Does the fire work it? Now, before explaining this, it will be necessary to define what we mean by a *convection current*. Were we to try, by boiling oil or by other means, to heat a vessel of water from the top, we should find that the heat would penetrate with extreme slowness beneath the surface, because the heated particles, being expanded and becoming specifically lighter, would

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remain where they are, namely, at the top, and would not give place to others. But when we heat such a vessel from beneath, the case is quite different, for the heated particles, getting specifically lighter, ascend and give place to others which descend; there is thus a continuous supply of cold particles constantly ready to take away the heat. Now, these upward currents of hot and downward currents of cold particles are called convection currents. The same thing takes place in a furnace fire: the hot air, becoming specifically lighter, mounts up the chimney, while its place is supplied by cold air, which pours itself into the fire. Stop up the chimney, destroy the circulation, and the fire will cease to burn.

Let us now examine on what this process called convection really depends. In the first place it depends upon the force of gravity, for it is in virtue of this force that light air ascends and heavy air moves downward. If, therefore, we were suddenly and in a mysterious manner deprived of a large portion of the earth's interior, we should find that our chimneys would not draw so well. Secondly, connection depends on the amount of expansion caused by an increase of temperature; thus, for instance, convection currents would be more violent in air than in mercury, because mercury expands comparatively little and air a great deal. Thirdly, it depends upon the magnitude of the temperature differences which are taking place; and, lastly, it depends upon the scale of the arrangement, so that a short chimney would not draw so well as a long one. Now, all these requisites come together in the sun. For in the first place, the force of gravity is there very great, being about twenty-eight times greater than it is at the earth's surface. Secondly, the substance there present is gas, which has a high expansive faculty. Thirdly, the temperature differences are enormous; and lastly, the scale of the whole is very great.

There is thus much reason for believing that convection currents must be of prodigious strength and magnitude in the sun; such currents, too, would be necessarily up and down ones. We cannot, therefore, go wrong in assuming that the gigantic up and down currents which we there behold are due to convection.

To conclude, the sun's radiating power is in a sense due to convection currents, and these currents are in a sense due to the sun's radiation; in fine, these two things support one another, and so the arrangement goes on briskly, and the sun continues to

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pour out light and heat. It will be noticed that we have said nothing whatever about the cause of the sun's heat, nor do we intend to do so; sufficient for our purpose that there exists in the interior of the sun a vast store-house of heat, which can be drawn upon as required, and brought to the surface.

It is thus sufficiently obvious that the sun's heat and light-giving power is intimately associated with the gigantic solar currents which observation reveals. Now this association is no doubt of a quantitative as well as of a qualitative nature; that is to say, if, from some cause, no matter what, these currents are at any time particularly powerful, we may expect the solar radiation to be particularly powerful likewise. There is, in fact, a strong analogy between the sun and an ordinary steam-engine. In both, heat is conveyed from a source of high to a source of low temperature, and this carriage is in both accompanied by a great display of visible energy. In both, too, no doubt the more rapid the carriage of heat the greater the visible energy. The difference between the two is rather one of object than of machinery. In an ordinary steam-engine, the object is the production of visible energy, while the means are the carriage of heat; in the sun, however (we trust metaphysicians will pardon us), the object is the carriage of heat, and the means are the production of visible energy. Be this as it may, we think it may safely be assumed that, when the solar currents are most powerful, solar radiation is most powerful likewise. Now, all observations, whether telescopic or spectroscopic, go to convince us that the currents of the sun are most powerful during times of maximum sun spots, when the outbursts of visible energy on and around the disk are of a scale and intensity absolutely overwhelming, and we are therefore inclined to believe that on such occasions the intensity of solar radiation will be found to be most powerful likewise.

But here, at length, we come to the mysterious part of our subject. We can fancy it acknowledged that the sun's heat-giving power depends upon the intensity of these visible currents; but then it will naturally be asked, why should this vary from year to year?—why should it exhibit an eleven-yearly period, or, indeed, any period at all? The reply to this question is still obscure. In the first place, we may be sure that this periodicity of sun spots, whether true or only apparent, must be caused either by something within the sun or by something without. Now, there is plenty of energy within the sun to account

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for any manifestation, however tremendous; but we can form no conception of any agent present there capable of causing periodicity. Besides, we never can expect to know much about the sun's interior; so that assigning the cause of sun-spot periodicity to these regions appears to be only a way of giving up the question altogether.

If we go now to the regions without the sun, we find there planets and certain comets which are strictly subject to periodical laws. On this ground, therefore, we might appropriately look to them as the causes of solar variability, were it not that we have great difficulty in imagining how such comparatively small bodies, so far off, can account for those enormous manifestations of energy exhibited in solar phenomena. It is possible that this objection may be got rid of by our defining more strictly what we mean by a cause. If we mean that planetary action causes sun spots, after the manner in which a blacksmith causes his hammer to strike the anvil, we certainly are not justified in our statement. But if we mean that planetary action causes sun spots, after the manner in which a man who pulls a delicate hair-trigger causes the explosion of a cannon, there is no *a priori* reason why this may not be true. Our limits forbid any lengthened discussion of this interesting but mysterious subject; we may, however, state that several observers have obtained preliminary evidence of some kind of connection between planetary positions and sun-spot frequency. It must, however, be borne in mind that if we are to resort to planetary action as a complete explanation of solar periodicity, we must assume the existence of intra-mercurial planets or matter, inasmuch as the configurations of the well-known planets are not enough to account for the various solar periods.

We have thus come to the conclusion that, waiving all speculations as to the cause of these periodical phenomena, there is reason to believe that, both with respect of currents and of heat-giving power, the sun is most energetic at times of maximum sun spots. But here it may be said, why trust to indirect inference? Why not determine this by some direct measurement of solar radiation? With great regret and not a little shame, we have to confess that no trustworthy information on this point has hitherto been obtained; indeed, it is only quite recently that suitable attempts have been made to determine this essential point by means of direct observation. Indirectly, however, we may

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examine certain terrestrial processes depending on the sun, and endeavor to find out whether these are more or less energetic at times of maximum sun spots.

The phenomena most suitable for this purpose are those of terrestrial magnetism and meteorology; let us now, therefore, commence with the former, and endeavor to ascertain whether the sun's action on the magnetism of the earth is strongest or weakest at times of maximum sun spots. The sun may be said to affect the earth's magnetism in two ways. First, by causing magnetic disturbances or storms, accompanied by auroral displays and earth-currents; and, secondly, by producing daily oscillations of the magnet. A few words are necessary as to what these affections really mean. For this purpose we may imagine a delicately suspended magnetic needle to be swung in a vault removed from all currents of air or changes of temperature due to the sun; or, better still, let us imagine a dozen such magnets to be so swung in various quarters of the globe. Now, on certain occasions it will be found that all these dozen magnets are in a state of tremor or oscillation, not extremely violent, but yet sufficiently marked to be easily perceptible. If the place of observation be in a high latitude, and if the sky be cloudless, and it be night, the aurora borealis will at the same time manifest itself, and the various telegraphic systems of the earth will be disturbed by spontaneous earth-currents. Such, then, are magnetic storms or disturbances, with their auroral and earth-current concomitants. Now, these storms are most frequent during years of maximum, and least frequent during years of minimum sun spots. In the next place, the sun produces a small diurnal oscillation in the position of the needle, in virtue of which it attains, in this hemisphere, its extreme easterly position about eight in the morning and its extreme westerly about two in the afternoon.

This affection of the needle is not, of course, simultaneous at the various magnetic stations, since it depends upon the hour of the day. In this respect, therefore, it is quite different from magnetic disturbances or storms. Now, it is well known that the range of this diurnal oscillation is greatest during years of maximum and least during years of minimum sun spots. It thus appears that, both as regards magnetic storms and diurnal magnetic ranges, the sun is most powerful at times of maximum sun spots.

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We come next to the meteorology of the earth. Here it might naturally be supposed that the evidence of solar variability should be more distinctly visible in the meteorology than in the magnetism of our globe; the reverse is, however, the case. We can, indeed, hardly doubt that the meteorological facts support the magnetical ones; but we are forced to acknowledge that the former are at present more cogent than the latter. For the purpose of reviewing the meteorological evidence, let us very shortly consider in order the four following elements: barometric pressure, rain-fall, wind force, and temperature. We may probably regard it as a sufficiently well ascertained meteorological fact that, during the summer, the pressure is particularly low in the interiors of large continents and comparatively high at sea; while, during winter, we have the reverse of this, the pressure being particularly high in continental interiors and particularly low at sea. Now, it is natural to suppose that this peculiar distribution of pressure should be more pronounced when the sun's radiation is powerful than when it is weak; and, as far as our present evidence goes, it appears to show that this barometric seesaw (as it has been called by Blanford) is stronger during years of maximum than during years of minimum sun-spot frequency. So far, then, the meteorological evidence supports the magnetical.

The same thing may be said of rain-fall. Dr. Meldrum, of the Mauritius Observatory, has shown that at a great number of stations the annual rain-fall is larger at times of maximum than at times of minimum sun spots, a result which has been confirmed by observations of rivers and lakes. He has likewise shown that there are most cyclones in the Indian Ocean in years when there are most sun spots, and fewest cyclones when there are fewest sun spots; and M. Poëy has pointed out a similar connection between the hurricanes of the West Indies and solar phenomena. On the whole, the meteorological elements of pressure, rain-fall, and wind agree with those of magnetism in representing the sun as most powerful at times of maximum sun spots, although the meteorological is not so strong as the magnetical evidence. Observations of temperature would, however, appear at first sight to tend in the opposite direction, and to show that the sun is least powerful at times of maximum spots, inasmuch as temperature is, generally speaking, lowest on such occasions. But Smyth and Blanford have shown that a

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low temperature is the concomitant of a heavy rain-fall and a large amount of clouds. If, then, the rain-fall be greatest at times of maximum sun spots, it would seem to follow that the temperature might then be lowest.

On the whole, we may conclude, with much probability, that the magnetical and meteorological processes of the earth are most pronounced when there are most sun spots, and this would seem to indicate that the sun's radiation is strongest on such occasions—a conclusion quite in conformity with the results of direct solar observation.

We have thus endeavored to establish the truth of our opening remark, that terrestrial meteorology has much to gain from the pursuit of solar inquiry. We cannot justly say that meteorology is receiving very little support. Meteorology is like an intelligent youth who is being generously nourished in order that he may run errands and make himself useful about the house. Meanwhile, however, his education is being almost entirely neglected, and his future prospects are in great danger of being sacrificed to his present serviceability. It is time that something should be done to prevent this, and on these grounds we venture to think the Report of the Solar Physics Committee will be welcome to all true lovers of meteorological progress. This Report advises that joint action should be taken by the disciples of the three cognate sciences of magnetism, meteorology, and solar physics, and concludes with the following words, which we cannot do better than repeat:

"We have no hesitation in expressing our belief that the continued careful study of solar phenomena will prove to be of the greatest scientific value, and that there is no reason for doubting that the advance of true knowledge in this direction will, in some form or other, and sooner or later, prove to be of real practical value also, as all experience has shown that it has been in other branches of human knowledge."

BALFOUR STEWART.

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MODERN EXPLOSIVES.

EXPLOSIVES are of very different degrees, both as regards pressure and effect. By pressure is meant the effort of the expansive gases measured by the strain upon the confining envelope; and by effects, not only the amount, but the kind of work.

Gunpowder may be exploded in the open air; or in the bore of a cannon; or it may be so strongly confined as to be exploded in its own volume. In the first case, the resistance to the escape of gases is due to the atmosphere; in the second, to the ball and to the atmosphere; in the third, no escape of gases being practicable before complete combustion, the pressure becomes the greatest possible for this kind of explosion. If, in the three examples given, the weights of powder being the same, all of the material be perfectly burned, the quantities of heat developed will be equal, as well the stored up work of the products of combustion. But the kinds of work done will be very different. In the first instance there is motion and disturbance in the air, spread over a large space; in the second, the explosion being partially confined under pressure and directed against the ball, would project it with a high velocity to considerable distances; and in the last case, the pressure developed would first perform work upon the elasticity of the confining envelope and, if the cohesive strength failed, would burst it. The latest experiments upon gunpowder exploded within the limits of its own volume furnish the following data: Pressure upon a square inch, 6400 atmospheres, or forty-two tons; and temperature of combustion, 3992° Fahrenheit. This substance is composed of two combustible ingredients, charcoal and sulphur, and a third, niter (potassium nitrate), which furnishes oxygen to support the combustion. It requires a considerable disturbing force to disengage the oxygen of the nitrate for combination with the carbon

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and sulphur; hence powder does not belong to the class of quick explosives. Sulphur inflames at a much lower temperature and gives more heat than charcoal, and is valuable in aiding the combustion of the powder and for increasing the elastic pressure of the gases.

When a charge in the bore of a gun is first ignited, the flame spreads rapidly over the surface of the grains, developing in the first few instants of time a large amount of gas before the projectile has sensibly moved from its seat, and thus causing great strain upon the metal of the gun. When it became necessary to increase the calibers, and particularly to construct heavy rifled guns, the size of the grains was largely increased, and by this means the total surface exposed to flame in the first instants of combustion was largely decreased, and also the production of gases. However, so long as the combustion proceeds from the outside to the center of the grains, large developments of gases take place while the ball is still near the bottom of the bore, becoming continually less as it moves toward the muzzle. General Rodman, of the United States Ordnance Department, was the first to suggest a remedy for this by pressing the powder in cakes perforated with holes, so that the surface of combustion should increase as the projectile was moving in the bore. The strain upon the gun was thus decreased, and it also became possible to increase the charge and the velocity of the shot. These cakes were finally made hexagonal, and fitted each other in the chamber with a minimum loss of space.

Powder in this form, called "prismatic powder," has been adopted for heavy rifled guns in Russia and Germany. To obtain increased space for charges, the bottom of the bore has of late years been enlarged, or chambered. Large-grained powder is now made of regular shapes, to fit close, so that like charges shall occupy the same length of bore for the same powder and caliber of gun; and it is evident that attention to this, as well as to the quality of the ingredients and to the process of manufacture, was necessary to produce uniform rates of combustion and of development of gases under the same circumstances, and thus secure standards of comparison. Without such precautions, it would have been impossible to have obtained anything like uniformity of pressures or to have estimated with any certainty the strength of metal required in the gun; so that great care and research devoted to improvements in the manufacture of

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gunpowder have been essential elements of success in the production of the large calibers now used in ordnance.

The introduction of heavy rifled guns has not only materially changed the construction of ships of war, but has also modified sea-coast forts and batteries, which now must be placed at greater distances from the commercial or naval depots to be protected, must possess greater resisting power, and must afford the emplacements necessary to the service of the largest artillery. Inland fortifications must likewise be placed at increased distances from the cities and depots, in order to counteract the operations of sieges, now essentially modified by the use of long-range rifled guns. With the addition of torpedoes to sea-coast defenses, neither the use of armor nor the heaviest artillery will suffice to give the advantage to ships of war in combat, provided the forts and batteries, for the protection of torpedoes as well as for their own defense, be well armed with heavy armor-piercing guns.

Gunpowder, for the important functions of war, has not been supplanted by the quick and violent explosives of later invention. On the contrary, it has been found necessary even to decrease the quickness of gunpowder in order to obtain satisfactory results from large cannons. This material is used for all calibers of artillery, large or small, for small arms of precision, and for the bursting charges of shells. It still holds an important place in military mining during the operations of sieges, although some of the quicker explosives will find here a portion of the field fitted to their special properties.

A great need is felt for some explosive powerful enough to burst with effect the heavy armor-piercing projectiles, so as to rend the sides of an iron-clad ship. The cavity in these is too small for a charge of gunpowder capable of producing the requisite effect. Neither nitro-glycerine, gun-cotton, nor dynamite No. 1 could be used as a charge in the cavity of the projectile, from the risk of exploding before the shot leaves the gun, thus rendering it unserviceable. The new substance, gelatine dynamite, or explosive gelatine, from its remarkable indifference to shocks and general insensibility to causes of explosion, joined to its extraordinary explosive strength, may furnish valuable results in this direction.

An illustration of different degrees of explosion has already been furnished in the three examples of confinement of gun-

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powder, but varieties of action far more striking are developed in the comparison of gunpowder with the more violent explosives. Gunpowder ignited under confinement so strong as to resist bursting until the maximum pressure is attained, burns, owing to the confinement of the heated gases and the pressure generated, with much more rapidity than when the substance is fired in the open air; nevertheless, in comparison with some other explosives, this action is slow.

Materials whose chemical decomposition takes place with extreme rapidity have the effect of crushing rocks and breaking hollow projectiles into an inconceivable number of small fragments, the elasticity of the resisting mass not having time to come into play. Action is exerted in a special manner upon the surrounding gases, the molecules of which are urged forward with a rapidity out of all proportion with a possible change of place of the surrounding medium; and in consequence the molecules of gas tend to accumulate, driven upon one another, and to produce the effects of a strong, unyielding confinement. It is a common remark of those who use the high explosives, that the surrounding atmosphere acts like a resisting wall. These considerations furnish the interpretation of the extraordinary local effects of the explosions of this class of substances. A small quantity heaped upon an iron plate will perforate it as if pierced by a bullet; arranged along a line across the width of the plate, it will cut it in pieces; wrapped around an iron column or a tree, it will shear it. Palisades, stockades, and barriers yield to its action, and walls and houses are prostrated by it. But the very strength of these explosives forbids their use in cannons; and in a shell filled with the highest form of explosives, it is found that the minute fragments into which it is broken would render it comparatively harmless against troops. Professor Abel tested the effects of a very small charge of gun-cotton suspended in the cavity of a shell filled with water; this medium, conveying the normal pressure of explosion to each square inch of the cavity, really multiplied the effect of the quantity of explosive used. The shell was broken into a much larger number of fragments than by the filling of the entire cavity with gunpowder.

Cartridges of quick explosives may be detonated at certain distances from each other by the explosion of one of them. In water, this transmitted explosion is practicable at much greater

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intervals than in air. The experiments instituted in 1876, in preparations for the demolition of the reef at Hallett's Point, showed that submerged cartridges of dynamite of the weight of one pound, inclosed in a wrapper of paper, were exploded by sympathy from the action of a similar amount of the substance at distances of eighteen feet, and when confined in stouter envelopes, at much less distances.

These modern explosives are applicable in submarine operations on account of the rapidity of their decomposition, with which the water, though in contact, cannot interfere. This is not the case with gunpowder, of which it is stated that the precaution of multiplying the number of points of ignition will not produce an explosion of the whole quantity under water. This, together with the superior explosive strength of the former, has caused the preference to be given to them for use in torpedoes. as well as in submarine blasting.

The term "burning" is especially given to progressive combustion, and the expression "detonation" is reserved for rapid and almost instantaneous combustion. The action of gunpowder is an instance of the former, and the decomposition of the high explosives, produced by mercuric fulminate, of the latter.

After the discovery of nitro-glycerine and gun-cotton, great difficulties were at first experienced in developing their full effect. Heat naturally was first applied; but as these substances would burn freely in the open air without explosion, confinement within a resisting envelope became necessary to produce the proper result. A cartridge of gunpowder, used as a primer, was successful in exploding the nitro-glycerine, but not the gun-cotton. M. Nobel finally employed mercuric fulminate for this purpose, and by its use, when confined in certain quantities within a metallic cap, all of the explosives of this class are detonated, except explosive gelatine, for which a particular primer is necessary.

M. Berthelot explains the detonation of these substances by a primer of fulminate as due to the heat evolved by the primer, and to the shock of its detonation, also converted into heat, acting upon a small portion of the explosive compound, which is sufficient, under existing pressure, to decompose suddenly into gas the portion in contact; and the next portion receiving the violent shock of these gases, the decomposition, by repetitions of this process, is almost instantaneously transmitted throughout

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the mass. He relies entirely upon the conversion of a blow or shock into heat, and *vice versâ*, according to the theory of thermodynamics, for the explanation of the phenomena of explosion from the shock of fulminating compounds and other sources. Professor Abel holds that the explosion of one substance by another is more easily effected when the vibrations of the latter are synchronous with those of the former in a high state of tension; or, in other words, that ethereal waves of heat may be assisted by sonorous waves in producing the result. According to M. Pellet, the explosion of detonating bodies should be attributed to a particular vibratory motion which varies with their constitution and properties, and which can act independently of heat and the shock of gases produced by the explosion of the primer.

Compressed gun-cotton, dry and wet, and dynamite, laid in trains with the disks or cartridges in contact, gave for the transmission of the explosion, when detonated at one end of the train, the following rates: for dry cotton, 17,500 feet per second; for wet, 20,000 feet; and for dynamite, 21,600 feet, showing an immense superiority over the rate of combustion of gunpowder. It has been stated that the decomposition of explosives varies in quickness from the combustion of gunpowder to the detonation of the most rapid compounds; and it may be added that, for the latter substances, their decomposition may be effected between the limits of a perfect detonation and of an imperfect explosion possessing but little power. The reaction started by the first shock from the primer in a given explosive material is propagated with a rapidity depending upon the intensity of that shock, which thus determines the character of the whole explosion.

Fulminate caps, as long as they are of sufficient size to originate a reaction of great rapidity, are properly called *detonators*. Mercuric fulminate, used particularly for this purpose, gives a shock more violent and sudden than any other substance—a result due to the greatness of the pressure it develops when detonated in its own volume, nearly 40,000 atmospheres. Nitro-glycerine, dynamite, and air-dry compressed gun-cotton are detonated with mercuric fulminate. Wet gun-cotton requires a primer of the dry kind, itself detonated by the fulminate. Explosive gelatine is detonated by a special primer of nitro-hydro-cellulose mixed with nitro-glycerine. Nitro-glycerine

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in the frozen state requires a larger primer of the fulminate. Granulated dynamite in the frozen state is detonated with the fulminate, but frozen in compacted cartridges it requires a primer of a soft cartridge detonated by the fulminate. Dynamite is not readily exploded with a primer of gunpowder. Nitro-glycerine is readily detonated by percussion. Dynamite and gun-cotton are not very sensitive in this respect. Professor Abel states, as the result of experiments conducted by himself, that all explosives, including gunpowder, are susceptible of violent explosion through the agency of various detonating primers; that a sufficient detonating charge will produce the full explosive effect of gunpowder in the open air without close confinement, and the same effect when submerged, without the use of the strong cases required for complete ignition in the ordinary way.

Nitro-glycerine is formed by the action of a mixture of sulphuric and nitric acids upon glycerine. The compound formed is a substitution product, several atoms of hydrogen in the glycerine having been replaced by equivalents of nitric peroxide. This compound owes its explosive sensitiveness to the comparatively feeble union of the oxygen and nitrogen in the peroxide, and a slight disturbing cause brings into play the stronger affinity of the hydrogen and carbon for the large store of oxygen contained in the new compound. It congeals between 40° and 45° in the pure state. It is of the greatest importance that in its manufacture the nitro-glycerine should be freed of acids; otherwise, it will decompose if kept, and during this process may be dangerous to handle.

Dynamite No. 1 is formed by the intimate mixture of an infusorial earth, kieselguhr, with nitro-glycerine, the proportion by weight being twenty-five per cent. of this earth to seventy-five per cent. of nitro-glycerine. It congeals at about 45°. Many other inert earths and substances have been used to form dynamites, but their absorptive capacities do not equal that of the kieselguhr. Various other mixtures have been made with nitro-glycerine which are well known in commerce, and which, therefore, need not be described—in most, a mixture of potassium or sodium nitrate and wood fiber, charcoal, or other form of carbon, and sometimes sulphur, with the addition, usually, of an absorbent.

Gun-cotton is prepared from cotton fiber treated with a mixture of sulphuric and nitric acids. The action of the nitric acid

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upon the fiber makes a substitution product, gun-cotton, by the displacement of several atoms of hydrogen with equivalents of nitric peroxide. The fibrous gun-cotton is afterward very finely divided by machinery, and reduced to a pulpy state in water. It is then compressed, under pressures of four to six tons upon the square inch, into disks or other forms, and may be kept indefinitely in a wet state, saturated with water, without danger of explosion from accidental causes. It does not contain oxygen sufficient for perfect combustion, and in consequence gives out a poisonous and inflammable gas, carbonic oxide, which renders its use objectionable in large quantities, under ground, as in military mines. To remedy this defect, Professor Abel recommends the material to be impregnated with a solution of potassium nitrate. This product has the strength, but not quite the quickness of explosion, that belongs to pure gun-cotton.

Tomite, as manufactured at San Francisco, is a mixture of gun-cotton and nitrate of baryta, and forms a useful blasting powder.

Explosive gelatine is formed from nitro-glycerine and soluble gun-cotton, about ninety per cent., by weight, of the former and ten of the latter, with the addition of a small percentage of camphor to render it insensible to shocks, concussion, and other causes of accidental explosion. Of all combinations known and applied to practical use, it is said to be the most powerful. It may be preserved intact for an indefinite time under water, in this respect differing from dynamite, which rapidly loses its nitro-glycerine when so exposed. It never gives off nitro-glycerine under extreme pressure. It is unaffected by violent shocks and vibrations, and even by explosions close to it. If, in addition to these properties, it prove to be a substance stable in character, there is no reason why it should not, for military and even for industrial purposes, where great explosive strength is required, supersede all of the quick and powerful explosives in common use.

From what has been said here regarding the properties and modes of action of the several explosive substances, it appears that there is no agent which can take the place of gunpowder for the principal requirements of warfare. In blasting rock, the quicker explosives have generally the advantage in point of economy of money and time, and this is especially the case in tunneling and in submarine blasting. However, in rock weak in

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cohesion, without seams where the gases might escape in large amount, and also in breaking down cliffs, as, for instance, to furnish stone for the construction of breakwaters, gunpowder still holds its old place. It is also necessary in coal mines, in order to get out large masses of the material; and in quarrying massive blocks of stone for building purposes, it is generally preferable. Nitro-glycerine is proscribed on account of its sensitiveness to exploding causes and its liquid character. Dynamite and gun-cotton are most useful in blasting, and particularly the former, on account of its plastic nature permitting it to be pressed into close contact with the sides of the hole. Both of these explosives are used in torpedoes and in military submerged mines, the dynamite, however, for reasons already given, being used in a granulated form.

The rapid and strong explosives are very useful in hasty operations for the destruction of abattis, palisades, stockades, barriers, and other military obstructions, and they form a regular part of the *matériel* in foreign armies. They serve likewise to remove walls, houses, and other cover for an enemy; to destroy with celerity bridges, particularly iron trussed railway viaducts; and in various ways, not necessary to mention, are useful in attack and defense. In industrial uses, they have perforated mountain ranges to open rapid communications between nations, have removed rocks and other hard obstructions from the channels of rivers, and destroyed submarine wrecks. They have been applied to break up the subsoil to depths of six to ten feet, to aid the growth of trees. They have removed masses of cast or wrought iron which accumulate below the tap-holes of cupolas or form in the crucibles of blast-furnaces. They have broken up ice dams interfering with navigation and producing inundations. They have sometimes been used in felling trees; but this is not expedient, except for hasty military operations to deprive an enemy of cover, or to create an obstruction to his advance. They are effective in removing stumps from fields and from the channels of rivers. The gigantic operations of blasting which have opened lines of communication by land and by water would probably never have been undertaken but for the discovery of the quick explosives. For unlawful uses, to serve the purposes of assassination and destruction of property, they can be applied only upon a limited scale and with nearly fruitless results, as experience has already fully demonstrated.

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Attempts in this way, made on a large scale to force social changes and overturn governments, would require both time and money and an elaborate plan of operations, which could not pass without detection and suppression, unless favored by organized masses of people sufficient in numbers and power to initiate revolution and war.

JOHN NEWTON.

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CONVERSATIONS WITH A SOLITARY.

PART III.

SCENE as before. Alison and Franklin are sitting together after luncheon.

FRANKLIN.—How the day has changed since the morning! The sky has become like lead, and—yes, I thought so—there is a spot of rain on the window. A sudden blight seems to have fallen upon everything. One would almost fancy one was looking at a different world.

ALISON.—I foresaw something like this as we were coming up from the rocks. The wind had shifted even then, and the trawlers, as you noticed, were being got ready for sea. How pleasant the breeze sounded, flapping the red sails!

FRANKLIN.—I was thinking less of the sails than of the sailors. What fine, bold faces, and what muscular chests and arms! If your grottoes of this morning might be the homes of Greek sea-nymphs, these Jersey fishermen might well be the descendants of vikings.

ALISON.—They not only might be: they very probably are. All the same, I am surprised to hear you say so.

FRANKLIN.—Surprised? May I ask why?

ALISON.—Because, according to your ideas, they might as well be the descendants of counter-jumpers. It is surely the Radical view that descent is nothing more than an accident. I am surprised, too, that a Radical should think it any praise to a fisherman to say of him that he looked as if he had a monster like a king for his father.

FRANKLIN.—Kings would not be monsters, they would be models, if they really were the fathers of fishermen; and when our next Royal Highness asks to be settled in life by the nation, I would willingly support a parliamentary grant to him of a fishing-smack. However, to be serious: as regards the question

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of descent, Radicals are by no means so irrational in their views as you imagine them. Hereditary qualities they acknowledge and would utilize; all they object to is hereditary prestige. A healthy father and mother will have, probably, healthy children; but if you wanted an active laborer, you would not employ a cripple merely because he happened to be born of muscular parents. It is precisely because we believe so strongly in natural distinctions that we are resolved as soon as possible to do away with artificial distinctions.

ALISON.—The question is, how far do natural distinctions descend; or, how far, in other words, do artificial distinctions coincide with them? So far as political capacity goes, you and your party think they do not coincide at all. I was surprised, therefore, at a man, who ridicules the idea of a race of hereditary politicians, taking so naturally to the idea of a race of hereditary sea-farers.

FRANKLIN.—I am glad you have brought me back to the point we started from; but, in the first place, let me set you right about one thing. No Radical denies that the son of a great politician may, in many cases, inherit his father's talents; and when this happens every Radical will be delighted. Practically, however, such an event is an accident; and I certainly do call ridiculous any social institutions which presume it as a certainty. With regard to these Jersey fishermen, the question is different. Physical peculiarities descend far more calculably than mental. High cheek-bones are inherited, when high thoughts are not; and you can tell the son of a Chinaman more easily than the son of a genius. But if you ask me to explain seriously the allusion which I made just now to the vikings, I was thinking of something far more certain than the heredity of any congenital qualities whatsoever. Let us hold what views we will as to birth, we can none of us doubt the results of early habit and education.

ALISON.—On the contrary. The results of education are to me doubtful in the extreme.

FRANKLIN.—I am not speaking now of the education given in board-schools; though if we were, I should be well prepared to defend it. I am speaking of the education that comes from the practice of any calling, and the results of it, in that sense, even you must admit to be calculable. Now it is quite true that I have never seen any vikings; but we all of us have at least some conventional notion of them; and if these fishermen struck

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me as being like their descendants, it was because they struck me as the inheritors of a very similar education. Of course, that chance fancy of mine is in itself not worth talking about; but the truth that lay at the bottom of it is one of the first importance. Of the physique of the fishermen, something, no doubt, is due to race; but even of that, not all; while, as to their other characteristics, education may claim nearly the whole of them. Do you remember that huge man, with the red handkerchief round his neck, whom we both of us just now noticed, as he sang, while arranging his nets, what sounded like some Norse sea-song? Well—his blue eyes, his fair hair, and his stature—these, no doubt, he had as a birth-right from his parents. But his cheeks of ruddy bronze—to what did he owe them? To his parents, or to the sun and the sea winds? While, as to his hardihood, his endurance, his presence of mind in the face of special dangers, his insensibility to many things that to other men would be intolerable,—still more plainly does he owe these not to birth, but to education. Suppose that same man had a twin brother, brought up in a city office, who went daily to and from his work in an omnibus, and spent his evenings at a music-hall or in the pit of a theater. How different even in look, still more in character, would the clerk be from the fisherman! Nature to each would wear a totally different aspect, each would meet it with a different front and feelings—with a different standard of what is painful, neutral, or pleasurable; so that what to the fisherman is a healthy life and livelihood, would be first a terror and then death to the clerk. You may be sure that the clerk, had I met him in our morning's walk, would, in spite of his birth, have suggested few thoughts to me of the vikings.

ALISON.—Perhaps not. All the same I believe that such a clerk as you speak of would have all his brother's special faculties dormant in him; and that a few weeks' experience of the ancestral life would show him possessed of every ancestral aptitude. I do not mean that in so short a time he would have mastered all the details of a fisherman's special knowledge, or that he would prove to have been born with a chart of the coasts of Jersey, ingrained like a strawberry-mark in his soul's inner consciousness. I speak merely of those striking general qualities, such as courage, presence of mind, and physical endurance which you attribute to his brother.

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FRANKLIN.—You mean that there would exist in him, solely in virtue of his parentage, and wholly apart from early example and education, a natural taste for the sea, a natural indifference to and familiarity with its perils, and a natural callousness to the hardships of wave and weather?

ALISON.—Such is my faith in the virtue of pure blood, no matter whether it be that of fisherman or aristocrat. Surely you ought to agree with me—you, who are a disciple of Darwin.

FRANKLIN.—The importance of what you call pure blood, whatever it may be in the case of pouter pigeons and race-horses, is less in man than in any other animal, and is confined almost to his lower and less human qualities. Amongst the civilized races, at all events, its effects are hardly appreciable, when compared with those of education. Did not the scholars and saints of the Middle Ages rise continually from the rank of serfs and peasants? Even feminine beauty, which no doubt does run in families, owes much to similarities in post-natal circumstances; and what foolish novelists call the "patrician type" buds, though it may not blossom, among the families of the people. But to come back to the fishermen. Can you think, even for an instant, that any man who has never experienced hardship can be born insensible to it? Will one who has held a pen all his life in an office acquire suddenly the horny hands of a sailor? Will one who has been sheltered from every draft of air and from every shower not feel intolerable the squall and the driving foam? These things to the fisherman, though not pleasant, are merely part of the wear and tear of existence. He climbs the mast as indifferently as his brother, the clerk, mounts an omnibus; and he has the same sort of liking for the sea that his brother, the clerk, has for London. But why? Not because he is his father's son, but because he has been his father's companion; and that character which you think he inherits, it has really taken years of a special life to fabricate.

ALISON.—According to your view, then, if some half dozen brothers were adopted from the cradle by as many different foster-parents, they might be so brought up as to present no trace of any common relationship, either to the same actual parents or to the same class. They might be different, not only in tastes, in habits, and in thoughts, but even in physical capacities and constitutions. Different kinds of food, different modes of life, would be pleasant to them. To the palate of one anything but

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Château Margaux might be distasteful; to the palate of another, anything but gin or beer. One might be a sailor with a frame, as you say, insensible to what we call hardship; another might be so organized that he would really feel as a hardship what would, to most men, be merely the absence of a luxury.

FRANKLIN.— Of course, as I said before, descent, though not much, is something. Some children are born cripples, or idiots; here and there, again, is an infant Hercules. But taking the average of mankind among the civilized races, I should say that in their cradles all classes were equal; and that the average baby, whether born of peer or peasant, was the raw material out of which peer or peasant might be made.

ALISON.—And you think this truth so clearly proved, that a person like myself can be blind to it through class prejudice only?

FRANKLIN.—I have no wish to overstate the matter. I think it possible for a man, quite apart from prejudice, to believe in inherited differences somewhat more than I do; but when these are compared with the differences produced by education, I believe that, apart from prejudice, no one would think them great enough to be of any practical importance, still less to justify any formal recognition of them by society.

ALISON.—And supposing a man—myself, for instance—to have got rid of his prejudices, and thus to see the question as you do, you believe that, if he is honest and logical, he will become a Radical, as you are?

FRANKLIN.—I do believe so, most certainly. As for prejudice, or what Herbert Spencer calls the class-bias, the extent to which it hides social truths from us is notorious; nor do I wonder at its effects, nor in all cases blame the sufferers from them. Still, when you gravely tell me that a man brought up as a cockney would, simply because he was born of a long line of sailors, prove a seasoned sailor himself the moment he set foot in a fishing-smack, I must confess that you seem to be intentionally allowing your prejudice to run away with you; if, indeed, I am really to believe you serious.

ALISON.—My dear fellow, that's the very thing you are not to believe. Of what I said to you about the clerk and the sailor, prejudiced as I am, I did not mean a word.

FRANKLIN.—It tends, perhaps, to make discussion a little difficult, if one of the disputants is reasoning from a proposition which he admits to be meaningless.

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ALISON.—Don't be offended. I was not playing the fool with you. I merely told a lie, that I might draw from your own lips as strong a statement as possible of what I, like you, think the truth. There are certain claims, no doubt, which I should make for birth, and which you would disallow. But compared with the claims of education they are, as you say, insignificant; and for argument's sake I will cede them altogether. Yes, education, — we are not talking, remember, of schools, but of the education that comes of all formative experience — the education of board and bed, the education of business, of labor, and of association, — education in this sense of the word is indeed the main power which fashions the raw human material, if not into different characters, at least into different classes. I grant you all this, I say, for argument's sake; I grant you most of it for the sake of truth; and yet, for all this, I am not a Radical.

FRANKLIN.—You mean that, in spite of what you have just now admitted, you are still an advocate of hereditary rank and privilege? You think it right that some men should feel themselves born to rule and others born to submit? I can conceive your maintaining that the son of a rich father is, from superior opportunities, more likely than the son of a poor man to acquire capacities for government. Myself, I should demur even to this; but you, I conceive, mean more than this. You mean that not only is the son of a rich man better than the son of a poor man; but that the descendant of ten rich men is better than the son of one.

ALISON.—I do; though I should allow, with the utmost liberality, for exceptions.

FRANKLIN.—And yet you admit that, on the average, in our cradles we all are equal; and that the baby who numbers twenty earls as his ancestors, is not socially different from the baby of a village grocer.

ALISON.—For argument's sake I admit it. You need not look at me so suspiciously. I am perfectly serious now. All are equal when they are babies crying in cradle. I admit this; and you wonder I am not a Radical. When babies govern us, and when society consists of babies, I will become one instantly — then, but not till then.

FRANKLIN.—That is well enough for a retort; but retorts are not arguments.

ALISON.—On the contrary, whether it be a retort or no, it is an argument of the gravest and most matter-of-fact kind.

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Let me put my own position a little more plainly before you. Here we are — having come there by another route — at exactly the same point where we broke off our discussion this morning. I maintained, if you recollect, that those feelings between class and class, which are somewhat analagous to those of lord and vassal, and which it is the main desire of you Radicals to eradicate, are in reality the very soul of national life; and that, though as time goes on they will naturally undergo many changes, to destroy them would be to destroy civilization.

FRANKLIN.—Am I to take you literally? or are you again trying to play upon me?

ALISON.—I am trying to be as sober as possible, and to speak with as little exaggeration.

FRANKLIN.—You think, then, that to abolish the House of Lords would ruin the trade of England, and make us all once more savages?

ALISON.—The House of Lords is but a sign of our civilization; our trade and wealth in themselves are merely the soulless body of it.

FRANKLIN.—Our civilization, I think, must be in a bad way, if the House of Lords is a sign of it.

ALISON.—You are now doing what a moment ago you said I was. You are using retorts, not arguments. Why should you be angry or irritated with me? Bear with me patiently, at least till I have explained my meaning, which as yet, I fear, I must have done very imperfectly. With regard to the House of Lords, I can conceive of its being abolished, or of its powers being modified, on the most conservative grounds. The significance and the effect of its abolition or its continued existence will, either of them, depend entirely on the grounds on which it is attacked or defended. I must, however, run the risk of annoying you by saying that, should it be abolished on the grounds which are put forward by you,— should its abolition, if it took place, indicate the triumph of your special principles,— its abolition would, in my judgment, be a sign of a gradual relapse on the part of England into barbarism. Let me put the matter more plainly yet. I was not speaking of the House of Lords nor thinking of it; it was you who brought it into the conversation. Since, however, I responded to your implied challenge about it, I must tell you in what spirit I spoke of the House of Lords, not in any way as a part of the English constitution, but as a

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convenient symbol of the structure of English society; and, regarding it in that light, what I have to say is this: The reason for which I mainly value it is the very reason for which Radicals mainly hate it. I value it because it is a symbol of the loyalty of class to class — of submission on the one side, and care and patronage on the other; because it is a public, a national acknowledgment that men are not equal, but that some are born to serve, others to rule; and that, exceptional cases apart, we all come into the world with our wants, our pleasures, our duties, and our ambitions circumscribed for us by the station into which we are born. See, I have put my case strongly; and I think, by this time at any rate, you must understand me. I am much obliged to you for having listened to me so kindly; and now treat me as I have treated you. Put your case strongly also; and however irrational, inhuman, stupid, selfish, dishonest, or brutal you think my views to be, do not scruple to tell me. Recollect, too, that with regard to equality in the cradle, we are both of us taking our stand on exactly the same premises.

FRANKLIN.— A few moments ago, you thought that what you said irritated me. Let me beg you to believe I am not speaking in irritation now. I am obliged to make this preface, for I certainly shall speak strongly. That view of life, then, which you insist I am to accept as your own, seems to me a negation, at once cruel, stupid, and hopeless, of everything in the social order which, in these days, makes the idea of society tolerable, which benevolence wishes, which reason demands, and which the course of events is accomplishing. I will not indulge my feelings farther in any indignant generalities. These are enough, and indignant enough; I will now explain them in detail. What the Radical believes, and what you, too, say you believe, is that Nature, when she sends children into the world, is no respecter of classes. Sweeping aside, then, the dreams of class superstition, what really differentiates, and what really graduates men, is not their birth, but their life.

ALISON.— Excuse my interrupting you; but so long as men are born to unequal fortunes, their life will be differentiated and graduated by the accident of their birth; nor will they any the less be divided into different classes.

FRANKLIN.— If you listen, you will see that that is the very point I was coming to. Of course, there will be different classes so long as civilization lasts. No Radical is such a fool as to

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think there will not. As long as knowledge lasts there will be thinkers and men of science; as long as men eat fish there will be fishermen.

ALISON.—And do I not gather from what you just now said that the man of science and the fisherman will be so far different beings, that not only their happiness, but even their health, will depend on social conditions of a widely different character?

FRANKLIN.—Surely that is what I began our conversation with insisting on. If physical labor were as hard to the physical laborers as it would be to those whose labor is mainly mental, we should have to regard civilization itself as criminal. You seem to imagine, however, from the tone in which you urge this fact on me, that there is something in it that is inconsistent with my position. That shows how imperfectly, even yet, you grasp what that position is. We do not say there is to be no difference in classes, any more than we say that there is no difference in capacity; but what we declare to be the truth, and what we desire to see recognized as being the truth, is that class depends on capacity, not capacity on class. We do not think that any fisherman's child can become a prime minister; but we should wish every fisherman's child to be conscious that, did his talents and opportunities fit him for the career of politics, there would be nothing incongruous, nothing unusual, in his aiming at or attaining the very highest offices of state. So, too, with regard to social distinctions (supposing their continued existence), we should wish every fisherman's son to feel that, had he social talents and social opportunities, there is no company, no matter how brilliant, with which he would not have a natural right to mix.

ALISON.—If that is what you mean, your millennium has begun already. Surely in politics, even you must be satisfied with the number of men who are wholly without pedigree, and I might say the same thing, very nearly, of smart London society.

FRANKLIN.—Yes, things are moving in the right direction; but before *we* are satisfied, they have far to move yet. As to smart society, I mentioned that as an illustration of my meaning merely, not as any part of the substance of it; but as an illustration it is exceedingly useful. I heard the other day of a man, of what you would call high family, who had been honored

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at the house of a great Liberal peer, by meeting at dinner several of the most brilliant thinkers of the day, and on some one remarking to him how the fine ladies present paid court to them, "It is the distinguished thing now," he said, "not to have had a grandfather."

ALISON.—Such a sneer, on his part, seems to me to have been rather vulgar.

FRANKLIN.—I am not concerned with its vulgarity, and I am not quoting it as a sneer. Let me suppose it to be the literal truth. What I want to tell you is this: It is not a truth with which any Radical would be satisfied. We no more want it to be a distinguished thing not to have had a grandfather than to have had one. We want the matter to be one of total indifference, and the position of a man's parents to be of no more social importance to him than the color of their eyes, or the number and length of their hairs. Here is another small point I may mention. How often, in England, does one hear the families of farmers laughed at for living, not beyond their means, but beyond their station! Again, a certain pomp of life, which would be thought quite natural in a duke, would be thought ludicrous in an opulent butcher who could equally well afford it. Now, as for myself, in my own house I have nothing but maid-servants: the present question, therefore, does not touch me. But though I am no apologist for pompous living in any one, I may say that, in the state of society which Radicals are laboring to realize, it will, among those who can pay for it, be thought quite as becoming or as unbecoming in one man as in another. At present, it is thought to symbolize in the duke's position some underlying reality which in the butcher's has no existence. The Radical desires that this so-called reality should be frankly recognized as having no existence in either case. Again, let me remind you that I mention these special matters, not for their own sake, but for the sake of the view of society they symbolize; and I hope that, if you take them in that light, they will have at last made my meaning clear to you.

ALISON.—The general meaning you have in your own mind is, I think, perfectly clear to me. As to the practical application of your principles I am not quite so clear. Benevolence, you say, wishes their application, and reason demands it. As to why this should be so, I confess I am as dark as ever.

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FRANKLIN.—Must I really, then, draw my inference for you? Is that so? Is it not self-evident? It was well said, the other day, in a Radical English newspaper, that the practical watch-words of the Radical party are these: "Promotion by merit," and "The tools to him who best can use them." Apply this, not to politics only, but to every distinction, to every labor of life—and there you have the practical meaning of Radicalism—of freedom, of justice, of progress. All men are born equal,—that we both acknowledge,—not personally, but socially. Let each man, then, be free to be what he can make himself. Let no man say, "Because I am the son of a fisherman, therefore it is presumption in me to aspire to be more than a fisherman." Talent, ambition, aspiration are on all sides of us—among poor and rich alike. Let a career be open to them indifferently, wherever they are. Let us all feel, not that we can all take the highest prizes in life, but that we are, each of us, equally free to take the highest prize that we can merit.

ALISON.—Thank you. That is quite plain enough. Let me now ask you a question or two. All men are equal at birth, whether their parents are rich or poor?

FRANKLIN.—We have both agreed as to that. It is the admission we start from.

ALISON.—How long, then, does this equality last? How soon does the brain and body of the fisherman begin to differentiate itself from the brain and body of the clerk?

FRANKLIN.—Hitherto we have said nothing of education in its technical sense. I am now coming to that. Without such education, most children will very early take a permanent bent according to their early surroundings, and it will be difficult for their ideas or their natural talents to extend themselves beyond the circle of their parents' life and occupations. But education prevents this premature fixing of the character. It opens a boy's eyes, so that, before his lot is chosen, he is aware that, for the resolute, there are many lots to choose from; he is able to ask himself for which he is best fitted: thus his destiny is—partly, at least—placed in his own hands; and if his talents fail to meet with what he thinks their fitting reward, he will not have to revile society with having failed to do justice to him, but to settle with his own conscience, because he has failed to do justice to himself. Thus wealth and all distinction being recog-

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nized as the reward of merit, wealth and distinction will excite no envy—or, at all events, but little, and only in exceptional natures.

ALISON.—Is the rich man's child reaping the reward of merit when it gradually learns that it has ready prepared for it all those means of pleasure, of learning, and of beneficence, which the poor man's child, should he prove ambitious, must spend half his life in a doubtful struggle to obtain?

FRANKLIN.—Men can well put up with an inferiority in circumstances so long as no inferiority is thought to inhere in themselves. The cardinal social truth, both in the head and in the heart of the Radical is that each man is what he makes himself; and that any man may make himself anything. If riches have helped some to make themselves exceptionally wise or useful, let the rest look up to them as wise and useful brothers. This kind of respect is very different from cringing to a man, not because he has used opportunities, but merely because he has had them. You said just now that I had already made my position plain enough. That is not the case. The most important practical issue of the Radical tone and temper I have hardly done more than mention. Once let these views of society I have been speaking of penetrate all classes, rich and poor alike,—driving away the shadows and the superstitions of Feudalism,—and society will recognize far more clearly than now the extent of the state's duty to the poor in the matter of education. One result, I need hardly say, will be that, for the poor, education will be free; but more than that, and even more important, it will gradually change its character. It will aim not only at quickening the intelligence, but at enlarging the imagination, at giving every young eye a commanding view of life, and impressing every young mind with a sense of social self-respect. In this way we Radicals are hopeful, that, putting aside the question of personal luxuries, the distribution of which it can never be possible to equalize, the children of each generation, be their parents rich or poor, will start in life with their opportunities equalized to a degree which at present is to you almost unimaginable. Now, I think my whole case is before you, and I am ready now to listen to yours, which, so far as I understand it, is a direct negation of mine.

ALISON.—Not quite so. You forget that I am conceding to you that all classes are born equal. But I concede even more

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than that. I concede something you have not directly stated, but which of course you imply, that those social and those political arrangements are best which most diffuse happiness, not among the few only, but among all.

FRANKLIN.—Well——

ALISON.—I concede even more than that. I concede—at least, for argument's sake—that education might be so regulated as to produce among the young of each generation as much equality as might exist later in life at the university, between the son of a small tradesman and the son of a millionaire merchant.

FRANKLIN.—Supposing such a pair to be friends, and the one not to despise the other, the equality between them would represent all that I hope or ask for.

ALISON.—I concede, then, that education might produce it—not that I think it would, but for the sake of argument. Now, I boldly, with my eyes and my heart open, declare that, supposing such a consummation possible, I would, were I statesman, do everything in my power to avert it, and I should regard it, did it ever take place, as the greatest of social calamities and the beginning of social dissolution.

FRANKLIN.—Are you serious?

ALISON.—Wait a moment longer, you have not heard me out yet. You would wish, you say, to enlarge the imaginations of the poor, to give their eyes a commanding view of life, and to teach each poor child to think that no lot in life need be beyond its natural ambition. I, for my part, would offer to their eyes not as many careers as possible, but as few. I would have them think that careers and ambitions, both, were fixed for them by their birth within certain well defined limits, and that what lay beyond these limits for them was the moon and stars. You tell me you would enlarge their imaginations. My dear Franklin, I would restrain and chasten them.

FRANKLIN.—What then! And is the son of the laborer to have no hope? Would you say to those who must always be the majority of mankind, "Aspiration is not for you. Among you genius will receive the reward of a crime, and can only beat itself to death against 'its birth's invidious bar'?"

ALISON.—Let us put genius out of the question. Genius will always rise, and will rise the brighter from having made its way through difficulties. We are talking now of the general

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run of men; and if by "aspiration" you mean the desire to rise out of one's station, I should say as a general truth, not to laborers only, but to every other class, "Aspiration is not for you." But since it is the laboring class you allude to specially, let us speak of that; or, better still, of that section of it which has really formed our text,—these Jersey fishermen, whose red sails at this moment are already dotting the gray surface of the sea. You think—I can see it by your face—you think what I have just been saying is monstrous. I am going to meet you with an *argumentum ad hominem.* Compare these fishermen with yourself. What a contrast in every way. You are full of wishes for the welfare of the world at large, and able yourself to appreciate the high and refined happiness that comes from the exercise of your own intellect, the approbation of your own conscience, and the pure affection of your family; you desire that such blessings should be diffused. But these fishermen — the objects of your wishes — what do they know or care for all the fine things you wish them? If you offered them money, no doubt they would clutch at it with a stupid avarice, to which before they were strangers; but what leisure can be theirs to know anything of the pleasures either of thought, of right doing, or of affection? If you could abolish fishermen altogether, well and good; but since you cannot, it is well that you should recognize the fact that, between you and them there is no kind of equality, and that your Radical principles can never, except for harm, alter their condition any more than a dog's.

FRANKLIN.—Suppose you made a speech like that at a public meeting. Would not you be howled down by the indignation of all your hearers? I do not howl you down; but my blood boils none the less. Still, I will answer you calmly. In physical constitution, the fisherman and I differ; our thoughts have been trained to employ themselves on different subjects; among them I grant there may be worse men, more stupid men, and unhappier men than I. But if so, that is not because they are fishermen. God knows——

ALISON.—I thought you did not believe in God.

FRANKLIN.—Whether I do or no, let the name be a sign of the solemnity and the conviction I am speaking with. God knows, I say, that in those boats yonder, in those cottages below us, by the simple hearth, or among the foam, the ropes, and the fish-baskets, hearts may beat as tender as, perhaps more tender than

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mine; lives may be led as happy as mine, and in all human essentials nobler than what I can attain to.

ALISON.—What! does your wealth, your culture, and the power which your wealth gives you—does not that raise you high above these men we are speaking of?

FRANKLIN.—This makes my life different; it enlarges my sphere of action; but it need not make me a truer man, nor, though I am happy, a happier one.

ALISON.—Relax your look of severity. Let your blood cease to boil. In every word you say, I agree with you; and when I spoke just now those words that shocked you, I was not stating any views of my own; I was merely stating what is the logical deduction from yours.

FRANKLIN.—From mine!

ALISON.—Yes, from yours. It is you, not I,—it is the Radicals, not the aristocrats,—who insult the people, and who treat the workman's life as a degradation. Is it not the gist of your gospel that the prizes of life should be open to all—meaning by the prizes, station, wealth, distinction, political power, and so on? and do you not ridicule those who deny your gospel? and do not you call it cruel to say that the man who is born a laborer, must, as a rule, remain a laborer always? Why, if the laborer, in all essentials, can be as happy as the rich man, what cruelty is there in wishing that he should, in most cases, remain as he is?

FRANKLIN.—Have I not said there must always be distinctions of classes? But talent demands for its exercise a wider though not a happier sphere, than that which belongs to the laborer. Let every laborer with talents be free to rise, so as to use them. You tell me these cases are rare, and that we may put them aside as exceptions. In doing that, you are begging the whole question. We can set nothing aside as, properly speaking, exceptional, save genius of the very highest and very rarest order. A percentage of talent in every generation, is the rule, not an exception. Were it not so, civilization could not sustain itself; and you yourself are admitting, quite as fully as I, that among the children of laborers the percentage of natural talent is as large as among the children of the wealthy; that as many are born with capacities for law, art, politics, military command, mechanical invention—what you will. Now, at present, we Radicals think that all this mass of talent lies undeveloped, practically non-existent, lost to the world, through the mal-ad-

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justment of society; and it is these sleeping forces that our reforms would set free. Half of the talent of the working classes is scarcely ever conscious of itself; the other half is conscious only to resent the injustice that oppresses it.

ALISON.—Let it be, as you say, that among the millions of the people there is as large a percentage of talent as there is among the thousands or the hundreds of the wealthy; that for every competitor for distinction in commerce, in science, in law, or in politics, that is supplied by the villa or the castle, a thousand others would be supplied by the cottage or the workman's quarter. What then? You will have more men wanting to be lawyers; but you will not make more lawyers wanted. You will have more men wanting office, but not a society wanting more officials. You will be merely multiplying the number of candidates, without multiplying the number of posts, and without, on your own showing, making the quality of the candidates higher. What you do will be simply this: you will multiply failures, you will not multiply successes.

FRANKLIN.—I call it a failure, when a man who is fit for a higher occupation has to spend his life in a lower one; and the world in that sense is peopled with failures now.

ALISON.—Again you are doing it—doing what I just now taxed you with. You are insulting the people—the masses, whose champion you declare yourself to be. Listen to me; I will go even farther than you. I will say that, of the laboring classes, not merely that there is a large percentage born fit for occupations other than manual labor; I will say that, with a few exceptions, this might be said of all of them. There are few men who, if bred to it, might not do more than dig or, to keep to the instance of our fishermen, might not do more than fish. But so long as the earth is earth, and so long as man is man, diggers and fishers the mass of mankind must be; and your fine radical gospel as to rising in life is an exhortation to human society to escape from its own shadow.

FRANKLIN.—You admit that it is a shadow, then?

ALISON.—I admit nothing of the kind. I had no intention that you should take my simile literally. If you like to deplore the lot of the manual laborer as in itself an evil, and one not worthy of a man, you are of course free to do so; but to deplore as an evil conditions which you never can alter is to make these conditions the very curse you say they are. Let us suppose that

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labor *is* an evil. Is not death an evil also? And yet we all can be cheerful—even knaves and cowards—under its shadow; and all but knaves and cowards can be resigned and calm in its presence. Suppose, however, some quack could persuade us that death was due to preventable causes, and could be altogether eluded by some form of revolution, then, indeed, to this generation of dupes, death for the first time would begin to make life a hell. It is the same thing with labor; except that death can never quite lose its sting, whereas labor is a nettle which, if grasped, may turn into a flower. My dear Franklin, I would ask you to lay this to heart—that, in an honest and useful life, its necessary conditions become intolerable only when we are taught to indulge in a false hope that we can escape from them. To go back once more to our exceptions, I should no doubt think it deplorable if a man were to die a carpenter who might have been a Shakespeare or a Raphael; but I should see nothing deplorable in a million men dying carpenters, who, born in a different sphere, would have been first-rate clerks or attorneys.

FRANKLIN.—Supposing you had the technical skill, should you like now to become a carpenter?

ALISON.—Have I had a carpenter's education? According to you, it is education makes us what we are; and the life that would be happy for a carpenter would be miserable to me. I need not answer your question, you have emphatically answered it yourself.

FRANKLIN.—The worth of opinions in these days can best be tested by considering what reception they would meet with, if freely addressed to the democracy. Apply that test for a moment to these views of yours. Would the people listen to you in this nineteenth century, if you were to get up on a platform merely to preach content to them, and to tell them they were doomed for life to the lot they have happened to be born to? Would you tell them that? Or, if not that, what would you tell them?

ALISON.—I would tell them this. I would tell them that the first and the best ambition for each of us, is not to leave our station, but to make the best of it. Bound your ambitions by the limits of your own stations—then every one of you may succeed. Once learn to put your ambitions higher, then all of you—except some very few, will be failures.

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FRANKLIN.—Do you think, in these days of education, such a limiting of the ambitions is possible?

ALISON.—That surely depends on what the education is. If education teaches that there are no limits imposed on the individual by the nature of the social structure, then——

FRANKLIN.—Then, what?

ALISON.—Then will be the reign of Radicalism, and that will mean a war against nature.

FRANKLIN.—You have taxed me, in my social scheme, of thinking of what would be best, irrespective of what is possible. Are not you doing the same thing? Is it possible, I ask you, in these days of knowledge (for I will drop the word education, since you think it ambiguous),—is it possible that the intelligent poor shall be blind to the advantage and pleasure, not of riches only, but of power and distinction also, and not do all in their power to deserve and win these for themselves?

ALISON.—This insane struggle of the millions for what can only belong to the hundreds, if once excited, it is no doubt hopeless to check. Hopeless?—I would I might retract the word. There may be hope yet. One thing only can check it.

FRANKLIN.—And what is that?

ALISON.—The strength of the national character; the loyal subordination of one rank to another; and the recognition that, though the highest prize of life—the sense of having done our duty—is open to all, what you call "the prizes of life" can be profitably competed for but by few, and can be possessed but by very few.

FRANKLIN.—And by these arguments you will persuade the English people to bow down to the House of Lords, will you? And you will call that a sign of the soundness of the national character? I wonder what you would say were you in America!

ALISON.—Here you are once more at the unfortunate House of Lords. Franklin, that subordination of class to class I speak of can take many forms; and the forms will vary with each nation's history. I have reminded you already that America is growing; but if all I hear be true, these very virtues are forming themselves in America which you and yours are trying to destroy in England. But why should we continue talking? I can see you are not convinced. Nothing I have said has made the least impression on you.

FRANKLIN.—Nothing. I may as well be frank with you; for

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I believe that I represent as well as most people the democratic intellect of the day; and if that be the case, I may well say, on behalf of all us Radicals, "Time is on our side." Be our cause bad or good, it is the advancing cause.

ALISON.—"Time is on our side." Who was it said that?

FRANKLIN.—A great Radical statesman. He took it for his motto.

ALISON.—It is also the motto of Death. Come—after all our quarrelings, we may part agreeing about one thing: that may be my motto also, for Death, who will so soon have dealings with me, will take me away from the evil and the wretchedness that is to come.

W. H. MALLOCK.

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SUGGESTIONS IN REGARD TO THE PUBLIC SERVICE.

TWO PRIME objects are sought to be accomplished by the "Act to regulate and improve the Civil Service of the United States," under which the Civil Service Commission has been organized.

1. To secure open competitive examinations for testing the fitness of applicants for the public service.

2. To take the clerical force of the Civil Service out of the influence of the politics of the country.

In regard to the desirability and importance of a careful examination as to the qualifications and fitness of applicants previous to their appointment, there can hardly be two opinions; and it will be readily conceded that the examinations instituted by the Civil Service Commission will tend to improve the service.

Two rules have been adopted by the Commission, and approved by the President, namely:

I. "No person in said service shall use his official authority or influence either to coerce the political action of any person or body or to interfere with any election.

II. "No person in the public service shall for that reason be under any obligation to contribute to any political fund, or to render any political service, and he will not be removed or otherwise prejudiced for refusing to do so."

These rules have unquestionably received the hearty approval of the public. The passage of a law requiring the adoption of such rules proves that a strong opinion prevailed that an abuse existed, which needed this law and these rules for its correction. Whether the evils sought to be remedied really did exist to the extent supposed, or whether they were exaggerated in the public mind, are questions outside the scope of this article. The law and the rules are so eminently just and proper in themselves

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that they deserve to be perpetuated; and so far as they prevent undue political influence, or pressure by superior officers upon the clerical force of the Government, the service will be to that extent elevated.

Little has been said of late in commendation of our Civil Service. It was remarkable that, during the recent debate in the Senate upon the Civil Service bill, there was no definite statement made as to the true condition of the service. It seemed to be an accepted conclusion that a reform was needed, and so the present law was passed. Would it not be well that some note be taken of the actual condition of the service, so that there may be no misunderstanding, a few years hence, of what has been accomplished under the new law?

The Treasury Department will be taken as an illustration.

First. As to removals and appointments. Many prominent and otherwise well informed citizens labor under the impression that the clerical appointments in this department are the perquisites of senators and members of Congress, and that there has been a procession of new and inexperienced persons (but who are active politicians) marched in to take the places of trained clerks who had no political backing, and who were therefore marched out. What are the facts? The clerical force, including messengers and laborers, of this department consists of 2250 persons. Of these, 135 have served twenty years and upward; 425, fifteen years; 414, ten; 214, eight; 299, five; 294, three; 469, less than three years. There have been 468 vacancies in this force during the past three years — an average of about three per week. Of these, 312 occurred by death or resignation, and 156 by removal for cause. The average length of service of the entire clerical force of the department is nearly ten years. There are now in the department one employé appointed in 1835, one in 1836, one in 1847, one in 1848, three in 1849, one in 1851, three in 1853, two in 1854, two in 1855, one in 1856, four in 1857, one in 1858, three in 1859, five in 1860. The aggregate length of service of these twenty-nine office-holders, appointed prior to 1861, amounts to 850 years. In the Internal Revenue Bureau, which was organized in 1862, there are now six employés who were appointed in 1862, eight in 1863, ten in 1864, eleven in 1865, seven in 1866, eleven in 1867, three in 1868, twenty-nine in 1869, eleven in 1870,— a total of ninety-six employés, or nearly half of the entire force, whose

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terms of service range from thirteen to twenty-one years. The average length of service of the present employés of the Bureau is over ten years. It will thus be seen that, even under the conditions as they existed prior to the passage of the Civil Service Act, nothing short of life tenure would materially extend the duration in office of the average Treasury employé.

It is true that there was a time, not long since, when there was an annual and demoralizing scramble for certain temporary appointments in the Treasury Department, which were made under a very defective law then existing. To correct this evil, three valuable measures of reform were adopted. These reforms have scarcely attracted public attention, and yet they have worked a revolution in the manner of making appointments, and therefore deserve special mention.

Formerly there was an appropriation of $100,000 per annum for the employment of temporary clerks. This fund became available annually, on the first day of July, and caused a great rush for places upon the temporary rolls. The demands were so urgent, and the pressure brought to bear was so great, that the number employed would usually exhaust the appropriation before the expiration of the fiscal year, and many employés would consequently be dismissed for want of funds wherewith to pay them. This became a source of so much annoyance and embarrassment that, upon Secretary Sherman's recommendation, the appropriation was discontinued, and the plan was adopted of making details from the various bureaus to perform such extra work as might be required in the Secretary's office.

For many years the practice prevailed of employing clerks upon what was known as the "Lapse Roll." These employés were paid from salaries which had lapsed by reason of vacancies or leaves of absence without pay. The appointments were temporary, but there was a constant pressure to secure them, and to remain in after having been once appointed. Then, again, there were a large number of persons employed, and necessarily so, under appropriations which fixed neither the number nor the salaries of the employés, and this was another field of struggle and contention. Secretary Folger wisely recommended legislation requiring that lapsed salaries be covered into the Treasury, and providing specific appropriations in the other cases, fixing the number of persons to be employed, and the amount of salary to be paid to each. The adoption of these measures worked

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a salutary change in the number of applications for appointment, and left to the Secretary the duty of filling vacancies as they occurred from time to time, by death, resignation, or removal for cause.

Second. As to the character of the force employed in the Treasury Department. Let it be judged by the old homely standards of integrity, capacity, and fidelity; commence with the great positions, and go down through the entire clerical force, and it will be found that it needs no reform. As a great business establishment it can scarcely be improved. In all its various branches are to be found men and women of high character, of splendid intellectual gifts and rare cultivation, well fitted for their respective positions. The heads of bureaus and divisions are earnestly devoted to the interests of the Government, and are loyally supported by their subordinates, with scarcely an exception. The Treasury Department has not been demoralized by political pressure, political assessments, and political removals and appointments. Nor are the seven great departments of the Government in Washington suffering from dry-rot on the one hand, or from excessive change on the other. There is a steady current of fresh blood flowing in, so that the whole body is kept in a healthy condition. No complaint is heard that the business of the Government and people is indifferently performed, or that the service is incapable, inefficient, or corrupt. On the contrary, the testimony of persons who have become familiar with the workings of the departments, from actual observation, will be that the service is honest, capable, and efficient. It may be safely stated that, if the departments were subjected to a rigid examination with a view of removing all those who, by reason of age or other disqualification or mental incapacity, should be considered inefficient, less than five per cent. of the whole number would be found thus wanting; and of these a large number would be disqualified only on account of advancing age and infirmities.

The Civil Service Act, and the rules made thereunder, do not in terms provide for a life tenure of the clerical force of the Government; but many of the most intelligent persons connected with the Civil Service reform movement favor a tenure during good behavior, which is practically the equivalent of a life tenure. The adoption of such a proposition I sincerely believe would be inconsistent with the principles of our republican form

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of government, and contrary to the sentiment of the people. It would create a privileged class, removed from the influence of popular thought and feeling, which in this country is a constantly operating force favorable to honest and efficient administration. It would repress the laudable ambition of other citizens to serve the Government in official capacities, and would manifestly tend to weaken that personal interest in the affairs of government which it is the policy of our country to foster in the minds of its citizens. The highest type of civil administration, in my judgment, can much better be attained by giving increased certainty to the tenure by which offices are held, while at the same time leaving them within easy control of public sentiment, so that the whole official body can be kept abreast of the progressive opinions of the people. It seems to me it would be a great improvement in the existing Civil Service law to add to the probationary system the principle of appointment for a fixed term, say of four years, the appointee at the end of that time to be eligible for re-appointment and, at all times during the period for which he is appointed, to be subject to removal only for such causes as may be prescribed by law.

A serious question which always confronts heads of departments and bureaus, is the disposition to be made of the persons who have served the Government faithfully for many years, but who from the natural infirmities accompanying old age are rendered incapable of the proper performance of their duties. As a rule, these persons have been unable from their meager salaries to lay up a sufficient sum for their support in their declining years, and they are no longer competent to undertake the duties of active private life. The service is now suffering to some extent from the presence of this blameless but inefficient element. It is obvious that the evil would, in time, be greatly aggravated by the unconditional acceptance of the doctrine of tenure during good behavior, for it is not *mis*behavior for a man to grow old during the faithful performance of his duties in office. The question arises whether, under such a system, there would not soon grow up a cry for a civil pension list for retired officers. The sentiment of the country is now unmistakably adverse to the adoption of such a system, and it is equally clear that it would not tend to the improvement or elevation of the public service. The exigencies of the service, however, demand that some suitable provision be made for the retirement

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of these aged persons in a manner which shall give recognition to the value of their past services, and at the same time enable them to retain their respect for the Government and their own self-respect. The suggestion is therefore made whether it would not be wise to establish for such long-serving and faithful officers a system of retiring pay—not a continuous pension, but a commutation to be paid in lump, on retirement, graded according to length of service and rate of salary.

I believe it will be found to be a serious objection to the system of appointments and promotions established under the new law, that heads of bureaus, who are specially interested in the successful workings of their offices, and heads of departments who are intrusted by the constitution and the laws with the appointing power, are restricted in recommending and making appointments and promotions to the four names presented by the Commission. Though they may have in view a person especially adapted for the duties of the position to be filled, they cannot appoint or promote him to the place unless he happens to be one of the persons selected by the Commission. I am satisfied that, if the present efficiency of the service is to be maintained, it will be found necessary to relax this inflexible rule.

There are other subjects, connected with the administration of the executive branch of the Government, which deserve attention. I think that, as far as it can be done consistently with the interests of the service, the number of persons to be employed and the salaries to be paid them should be fixed by law. At present, in the customs and internal revenue districts, the number of persons to be employed, other than collectors and other officers appointed by the President, and the compensation to be paid them are largely left to the discretion of the Secretary of the Treasury. It would seem that these employés might be graded as in the departments at Washington, and their salaries fixed by law. The adoption of such a measure would relieve the collectors and the Secretary of the Treasury from the unpleasant and onerous duty of fixing the salaries of a very large number of their subordinates, and from the pressure now constantly brought to bear upon them for an increase of the same.

The most important field, however, in my judgment, for legislative and administrative reform is in connection with the administration of the offices of United States district attorneys, marshals, and commissioners. These officers are paid by fees. While the

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maximum fees of district attorneys and marshals are fixed by law and the orders of the Attorney General, the amount actually received by them is contingent upon the institution and prosecution of cases in court. The District Attorney is made the judge of the propriety of commencing criminal proceedings against a citizen, when out of those proceedings fees will accrue both to the District Attorney and the Marshal, whether the person accused be guilty or innocent. These officers may prefer complaints against citizens for trivial or unintentional violations of revenue laws, may cause their arrest and examination before a United States commissioner; and district attorney, marshal, deputy marshals, guards, witnesses, and United States commissioner will all receive their fees or expenses out of the treasury of the United States, even though the persons arrested should be promptly declared innocent and discharged. It is not in human nature that such a system can continue without abuses growing up. Even in well ordered communities it is productive of a most wasteful and unnecessary expenditure of the public money; in new and remote settlements the practice has resulted in grave outrages on the rights of citizens. There would seem to be no sufficient reason why United States district attorneys and marshals and deputy marshals should not be paid fixed salaries as are other officers of the Government. The enactment of a law to this effect, and authorizing the Attorney General to regulate the traveling expenses of deputy marshals within certain prescribed limits, would secure a better and more economical administration of justice, would bring the expenditures of these officers within the control of the Department of Justice, and would remove the temptation which now exists to multiply proceedings and institute unjust or frivolous prosecutions in order to realize the maximum of fees.

GREEN B. RAUM.

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DR. HAMMOND'S ESTIMATE OF WOMAN.

MRS. BLAKE.

AN attentive perusal of the somewhat rambling essay on "Woman in Politics," prepared by Dr. Wm. A. Hammond, discloses a looseness of argument and incorrectness of statement surprising in one who so stoutly contends for scientific accuracy in others. Thus, after admitting and, to a certain extent, approving the progress of the movement for woman's advancement, this learned opponent of its further success would arrest "the revolution," because she has already secured sundry advantages which, any well informed person should be aware, are still far beyond her reach. He says: "Her right to work in any field of labor she may select is granted; her person and property are as well protected by law as those of man; she has all the rights and privileges necessary for her material and mental prosperity."

A brief analysis of this remarkable series of assumptions will show its incorrectness. The right of woman to work in many fields of labor is denied or restricted. She cannot hold any of the higher positions in the civil service of the country. She cannot fill any of the legislative or executive offices of the Government. She cannot occupy a seat on the judges' bench, and is not even admitted to the bar in New York and many other States, while in innumerable professions and avocations her sex is made a reason for refusing to her equal advantages. Her person and property are not as well protected as man's. Women are in all cities liable to arrest for walking the streets after dark, while the peculiar protection to which their sex should entitle them is everywhere so inadequate that the columns of our journals are daily darkened with shocking stories of outrage on women. As to property, Dr. Hammond must know that, though in several of the new States and a few of the

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old ones, women have been secured in property rights, still, in nearly all the Middle and Southern States, and even in some of the New England States, married women can neither inherit nor otherwise acquire property, and are not protected even in their earnings, while the right which, above all others, should belong to the mother—the right to her own children—is denied even in New York. And finally, it cannot be declared that woman "has all the privileges necessary for her material and mental prosperity," while her wages are everywhere from one-half to one-third less than those paid to men for the same work, and admission to nearly all the higher universities is denied to her.

A still more glaring instance of inaccuracy and want of information on the part of the distinguished physician is displayed in his extraordinary assertion that life insurance companies decline to issue policies to women. There is apparently no shadow of foundation for this statement. Very soon after its appearance, its truth was investigated by some of the newspapers, and it was easily ascertained that insurance companies do issue policies to women, only charging them a trifling additional annual premium if they are under forty-five years of age.

In the opinion of Dr. Hammond, exactness of statement is peculiarly a masculine characteristic, while one of the strongest proofs of woman's inferiority and consequent unfitness for any share in politics is, that "she does not, while having an abhorrence of falsehood, understand the necessity for being exact in the ordinary affairs of every-day life."

Apparently, all the men the good physician has ever met were models of truthfulness and scrupulously exact in their statements. If exactness in the ordinary affairs of life is to be a requisite for admission to the right of suffrage, how many voters will there be at the next general election? Will Wall street be represented? How many merchants will dare to come? Will any political organization send a delegation? Hardly, if there has been the usual estimate of majorities and predictions of party success. And even the worthy Doctor himself will certainly not attempt to show himself at the polls after that unfortunate inexactness in regard to life insurance. Indeed, were men judged by the standard to which he holds women, it would be hard to find the ten righteous souls that should save the city.

But the main stress and force of the Doctor's argument that women ought not to be admitted to political privileges is to be

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found in his elaborate comparison of the differences in weight, form, and convolutions between the male and female brain, and the deduction that because of these differences women must not be allowed to vote. No doubt the eminent anatomist is as exact in the facts and figures here given, as the most rigid truthfulness would demand; we would not venture to question the statements of so distinguished a specialist in a department so peculiarly his own, but merely ask if, admitting his premises, his conclusions are therefore correct.

His argument rests upon the statement that the average male brain weighs forty-nine ounces, while the average female brain weighs only forty-four ounces, although he admits that, "relatively to the weight of the body in the two sexes, there is no essential difference in the weight of brain"; and that the female brain differs from the male in structure, the latter having a superior development of the frontal lobes, more intricate convolutions, deeper sulci, and more numerous secondary fissures,— all of these things being assumed to indicate higher mental development, though of course this is mere inference. And, when the assertion is added that "woman's brain is not suited to the work which is required of man," one is tempted to ask how, then, it is that women employed as journalists, teachers, telegraphers, stenographers, type-setters, and in a vast number of other occupations, acquit themselves as well or better than their male competitors?

The Doctor fails to note one point which seems to have some bearing on the question of functional activity, and this is, that, according to Broca, when a man has less than thirty-nine ounces of brain he is an idiot, while a woman is competent to attend to the ordinary duties of life, and may be a useful citizen unless she has less than thirty-two ounces of brain. Surely, this significant fact would seem to indicate that there is in the larger brain of man a want of compactness, and that, relatively, his brain is less capable of control than woman's. Possibly this may account for the frequent masculine tendency toward looseness of conduct and irregularity of morals, and explain why so large a number of our present voters seem to be but little removed from idiocy.

However, admitting the truth of all the Doctor's assertions, the whole force of his deductions from the difference of size and form of brain between woman and man is destroyed by the ad-

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mission which he makes, that "it is quite true that the brains of some women are larger than those of some men, just as some women are vastly superior, mentally, to some men." If this be so, then the whole argument that women ought not to vote, because they have smaller brains than men, ceases to be of the slightest value, since, if political privileges are to be regulated by weight of brain, then of course women should have equal privileges with men whose brain power only equals theirs, and *superior privileges to those of men whose brains are inferior to* theirs in capacity.

But feeling, no doubt, that mere deficiency of volume of brain is not sufficient to stamp women as light-weights mentally, he endeavors to prove their unfitness for political life by a variety of general deductions. He says: "The best wife, the best mother, the best sister, would inevitably make the worst legislator, the worst judge, the worst commander of a man-of-war,"—a hasty assumption which it is easy to make, considering that, from the universal masculine usurpation of all the best positions, we have very few data to prove what women would be in commanding positions. We know, however, that Deborah, the great lawgiver of Israel, and Maria Theresa, the valiant Empress of Austria, were both good wives and excellent administrators; while, as a rule, men who have been conspicuous for their ability as legislators, judges, and commanders, have been notoriously bad husbands and fathers, from Socrates to Lord Nelson.

Again, the Doctor declares that in women the emotional nature predominates over the intellectual,—a hasty generalization to which any one's circle of acquaintance will offer exceptions,—and asserts that to this is due the fact that "very few women are capable of an intense degree of abstract thought." As this is equally true of his own sex (and very few men "are capable of an intense degree of abstract thought"), no important deduction is possible from so universal a failing.

Further, he says that woman is inferior because "she will sacrifice her own happiness, her life, and all considerations of duty to others and the public at large, for some man whom she loves." But as the records of human life prove that man, under the sway of passion, will sacrifice everything to the woman he loves, the statement amounts to nothing more than a truism with regard to both sexes; and similarly when he argues that women, if acting as judges and jurors, would be influenced by sympathy with

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a handsome felon, he only asserts that they would be as weak as men occupying similar positions, who are notoriously lenient to beautiful female culprits.

"The female mind," he contends, "experiences overwhelming difficulties in the study of mathematics,"—a very singular statement in view of the fact that within the last few years mathematical honors at the universities of Edinburgh, Cambridge, and London have been won by women; and that the average mathematical attainments of the girls in the normal colleges is above that of the boys in our high schools.

Again, the brilliant instance of woman's capacity for the most difficult mathematical calculations, displayed by Mrs. Roebling in the important part she played in the building of the Brooklyn Bridge, disposes of the Doctor's sneer that the female brain is incapable of grappling with the problems involved in the construction of suspension bridges, and makes the silly comparison between a mathematical woman and a tipsy hare a mere gratuitous impertinence.

But, like a good general, reserving what he doubtless considers his most powerful battalions of argument for the close of the battle, the great specialist attempts finally to annihilate all woman's aspirations for personal liberty by dwelling at considerable length on the "peculiar neurotic condition called the hysterical, which is grafted on the organization of woman." He declares that, while this "is the cause of all the most charming features in her character," it also makes her peculiarly susceptible to extraordinary excitement, and that therefore she should not be intrusted with political power.

It is evident that the distinguished alienist, in his estimate of woman's powers and capacities, is largely influenced by the studies of dementia and hysteria, to which he has devoted a large portion of his life. His acquaintance with normal and healthy women must be limited, or he would have considered how many wives and mothers daily meet circumstances which require discretion with admirable capacity, and how that in scenes of public danger the presence of mind displayed by women has often put to shame the cowardice exhibited by men.

However, the argument against woman's admission to politics, drawn from her emotional nature, if it proves anything at all proves entirely too much. If liability to excitement unfits her for positions in which "force of intellect, power of disinterested

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judgment, and large views of public policy are concerned," what shall be said of her brother man's capacity? Assuredly the members of that sex are also "at any moment, and often from slight causes, liable to burst out into unexpected and uncontrollable paroxysms, in which all the mental and physical faculties are perverted from their normal course and thrown into a condition of most astounding turbulence," as will be admitted by any spectator of the recent prize fight in Madison Square Garden, where learned professors, grave statesmen, and distinguished jurists shouted and swayed in wild excitement over the blows exchanged by two brutal giants. Many a quiet wife could bear similar testimony to masculine proneness to undue violence from causes no more momentous than the annual house-cleaning.

Certainly, any one who has ever been present at a Presidential nominating convention and seen men, under the excitement of the moment, howling, screaming, weeping, tearing off their clothing to throw it in the air, and utterly exhausting themselves by the violence of their emotions, might well declare that in every man "there is a potentiality for irregular, illogical, incongruous, and altogether inharmonious conduct under circumstances which require the utmost degree of presence of mind and discretion." In view of scenes like these, the calm observer, if non-professional, might well suppose that, despite the physiological differences, men were also subject to "the peculiar neurotic condition called the hysterical."

In fact, after comparing the conduct and attributes of the two sexes, "extenuating naught, neither setting down aught in malice," to be consistent, the Doctor must either declare men unfit for politics, or admit that, since he himself has said that women excel in conscientiousness, truthfulness, and intuition, these qualities should be represented in government as an offset to the folly and unreason which so often sway our present voters.

Briefly stated, the whole essay amounts to little more than the assertion that women must not vote because they are women — a begging of the question hardly worthy of so severe a critic. In conclusion, we cannot do better than to quote the words of a scientific writer as distinguished as Dr. Hammond. Prof. Huxley, in discussing the same question, while candidly admitting the disabilities of sex, says:

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"We fear that, so long as this potential motherhood is her lot, woman will be found to be fearfully weighted in the battle of life. The duty of man is to see that not a grain is piled upon that load beyond what nature imposes; that injustice is not added to inequality."

LILLIE DEVEREUX BLAKE.

MISS MORAIS.

IF Macaulay's New Zealander, sitting upon a broken pier of the Brooklyn bridge in some future age, should take up a copy of THE NORTH AMERICAN REVIEW for August, 1883, he might reasonably infer that the wearing of long hair, or short hair, or hair parted in the middle or on the side, bore some occult though direct relation to the profoundest sociological problems of our times. It is indeed true that any departure from the reigning fashion of wearing the hair has for many ages denoted the social barbarian; and the length or the cut of the coat of a reformer is to many minds the gauge of the propriety of his reform.

But Dr. Hammond, in his appeal to popular prejudice, may be contradicted at the outset. He states that the Woman Suffrage movement was at first conducted by abnormally constituted men and women, who respectively displayed longings for the clothing and characteristics of the opposite sex. He declares that these beings were universally regarded as a "set of impracticable fanatics," who, being "unhappy in their domestic relations," tried "to make their fellow-creatures as miserable as they were themselves." He asserts that the first proceedings of the "suffragists" displayed the effects of that peculiar neurotic condition called the hysterical, which, according to the Doctor, is a normal state of the female organism. In reply to criticisms of this order, H. B. Blackwell, of the "Woman's Journal," whose authority on the subject is beyond question, names the prominent men and women who took part in the movement or expressed sympathy with it in its earliest days. Some of the "effeminate" men were Ralph Waldo Emerson, William Lloyd Garrison, Bronson Alcott, John G. Whittier, George W. Curtis, T. W. Higginson, and Wendell Phillips. Some of the "abnormally constituted" women were Lucretia Mott, Elizabeth Cady Stanton, Lucy Stone,

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Antoinette Brown. Many of these men and women were happy husbands and wives; most of them have exercised beneficial influences on American life and thought; and their fanaticism was effective enough to aid in erasing forever the sarcasm that made our national hymn celebrate "The land of the free and the home of the *slave*."

Moreover, the records of the first suffrage meetings have been carefully preserved, and, bearing in mind the contumely heaped upon the characters and motives of the participants, their papers are singularly calm and dignified. Indeed, the pioneers of the agitation appreciated full well that only by irreproachable demeanor and persistent appeals to the popular sense of justice could even a primary hearing be obtained.

The movement for woman suffrage was not an hysterical outburst of abolition notions, but the expression of a long germinating idea, which the war times brought prematurely into prominence. The French Revolution had not fired the hearts of men without sending a spark into the breasts of the mothers of men. Mary Wollstonecraft, the first vindicator of the rights of woman, dedicated to Talleyrand the work which strove to impress upon women the beauty of physical health and moral purity, and which enjoined upon them to spurn the courtesy that called them admirable because of their weakness. Since the time of Mary Shelley's beautiful mother, many gifted women — among whom were the gentle sister of Elia, and our own sweet singers Alice and Phœbe Cary — have spoken as boldly as they dared on behalf of their sex; but not until the days of the antislavery agitation was any organization attempted to promote their ideas. At that time women, whose influence by pen and by tongue had formed a large if not a preponderant factor in the triumph of abolition principles, were appointed as delegates to abolition meetings, but were refused the right to vote in a cause for which they had worked so earnestly and so effectively. "You may fill our ranks by your songs and your books; you may sacrifice health, time, means, for the cause in which we are engaged; but you cannot comprehend the issue involved, and even if you did, the act of voting would unsex you." This was the logic of the anti-suffragists during the war; against this logic the "impracticable fanatics" rebelled.

Such was the origin of the Woman Suffrage movement.

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Its results thus far, as summarized by Dr. Hammond, may be briefly stated thus: The "spirit of fairness" (evoked by this disreputable agitation) has allowed woman to earn her own livelihood in almost any field she may choose, has permitted her to keep her own property, and has given her a qualified suffrage in some States. But now that the "spirit of fairness" has granted all this, Dr. Hammond cries Halt! The revolution must not only be arrested, but, "contrary to the ordinary course of procedure in other revolutions, must go backward." For "grave anatomical and physiological reasons," the law of social progress must be reversed. In what particulars the "spirit of fairness" has gone too far, Dr. Hammond does not mention. It may be inferred, however, that the hysterical being who can reason neither exactly nor abstractly, nor without prejudice, is unfit to perform any serious business of life unless under constant supervision. Yet, in the Doctor's opinion, the very absence of rationality fits woman preëminently for the most solemn and responsible of all duties — those of the mother.

To consider Dr. Hammond's "grave anatomical and physiological reasons" for reversing the progress of civilization is to pursue a path oft trodden, and hence wearisome to those who have given any thought to the question here debated. Unfortunately, the reiterated words of the best expositors of the movement, like the condemnation of the absentees in the pastor's sermon, reach only the ears of those already convinced. Briefly, the facts and arguments of Dr. Hammond's school are these: The average brain-weight of man is universally admitted to be greater than that of woman, and, according to the *ex cathedra* utterances of Dr. Hammond, the brain of man is of finer quality than that of woman. In many instances, large brains have been more productive than small ones. It follows from these data, that women cannot reason as well as men, and ought, therefore, not to vote. Now, the thinker will see at once a number of breaks in this chain of reasoning. The first query that suggests itself may be stated thus: Can it be shown that large brains are so often coincident with superior intellectuality as to make the possessor of a large mind and a small brain exceptional? The answer is that it cannot. Again: Is the knowledge of the structure of the brain so well defined that mental capacity may be deduced strictly from a consideration of that structure? The answer is, that it is not. And further: In the absence of such knowledge, has there

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ever been any fair test made of the relative mental capacities of male and female? The answer is, that until lately there has been no attempt at a like educational development of the sexes; that the attempt has been made, not by physiologists as a class, but in spite of them; and that the results, notwithstanding all inherited and natural disadvantages on the female side, show an equal progress of the girl and the boy. And, collaterally, it may be well to emphasize the oft-repeated fact, uncontradicted by physiologists, that a man with less than thirty-seven ounces of brain matter is an idiot, while a woman—with a brain of inferior quality, according to Dr. Hammond—is fairly intelligent with thirty-two ounces.

Finally, and of most importance in this discussion, is the question, What relation does the higher mental capacity bear to the right or privilege of voting? Is there any country in the world in which the power of abstract reasoning or the ability to grasp generalities is a test for qualification at the polls? Across the Atlantic, the angle of political capacity spreads from the Russian autocrat at the apex to the holders of the "lodger franchise" on English soil. At one time wealth, at another genealogy, at another religion, has been made the test of the voter; but at no time has the power of abstract reasoning been set up as a necessary condition for the exercise of the highest function of citizenship. Indeed, if an exclusion from the suffrage were made on this ground, and if it were applied, as it ought to be in justice, to both men and women, the polling list would be more than doubly decimated; but no government with such a franchise could, by any stretch of the imagination, be called representative. The most profound thinkers are not always the best fitted to comprehend and to legislate for the wants of those less highly endowed, and the vote of the illiterate laborer is as necessary for the protection of his interests as that of the cultured monopolist is for the broader schemes which accumulated wealth suggests. The votes of both classes, and, indeed, of all classes, are of equal necessity for the well-being of a government which proposes to represent the will, not of a clique, but of the people. In the broadest view, government exists only as the representative of the governed; it is the expression of the will of all classes, and when any class is excluded from the franchise, just and weighty reasons for such exclusion must be shown.

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By what process of reasoning are native women over twenty-one years of age debarred, in this country, from the right extended in general to every male of full age who is not an idiot, a pauper, a criminal, or an unnaturalized foreigner? Is woman so incapable of comprehending her own interests as to make her enforced silence necessary for her own welfare? Is her nature and her function in life so like that of man as to need no distinct representation? Or has she been represented vicariously by her male relatives? Dr. Hammond says that woman is incapable of comprehending her own interests. The teacher whose lessons have the largest influence on the character of our legislators cannot understand what constitutes her own advantage. Her hysterical nature, led astray by neurotic impulses, incapable of forming unbiased judgments, may properly sway the new generation, but cannot control itself; and yet the good mothers of the race exemplify the fact that in the one case in which feeling is most dominant—in the love of mother for child—the educator has allowed not emotion but judgment to sway her conduct; and further, if more women than men are hysterical and frivolous, let it be remembered that the "lady" has always been shielded from the necessity of deciding the serious issues of life, the confronting of which serves to mature the character.

To the second query, Is woman's point of view so like man's that she needs no special representation, the reply is obvious. Woman is so unlike man in her physical, mental, and social nature that she needs preëminently a special representation.

Thirdly, has she been represented vicariously? The common and statute law which allowed her husband the control of her private property, which gave her separate earnings to a drunken husband, which declared that upon her husband's death she was not the natural guardian of her children, offers speaking examples of the so-called vicarious representation. That many wrongs have been righted without the influence of the ballot is due to the much denounced agitation which has addressed itself to men's "spirit of fairness," and to the obvious need of silencing the demand for the suffrage by remedying the most glaring evils which the denial of that right entailed.

The suffragists of the United States have met with the usual derision and maltreatment that await reformers. The fair name of their women has been defamed, the actions of the

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men misrepresented. It is true that now and then some seeker for notoriety, some loud-voiced advocate of liberty for lawless purposes, has thrust himself or herself into the ranks; but the body of suffragists are, and have been, men and women known for the spotless purity of their lives, and for an unfaltering purpose in promoting what they believe to be a sacred cause.

The status of the Woman Suffrage movement is simply this: It asserts the primary right of every human being not obviously incapable of appreciating his own interests — and hence, indirectly, the interests of society — to a voice in his own government. It denies to any one the right of presenting an *a priori* case against woman's capacity, holding that brain structures are not reliable standards of qualifications for voting, and that all fair trials of mental endowments, thus far, have shown that the mind of the girl is as good as that of the boy. It affirms that taxation and representation are inseparable, and claims that women who pay both direct and indirect taxes are entitled to the same civil rights and privileges that the men of the Revolution demanded from the stubborn king who claimed to know what was best for the interest of his refractory subjects.

The Woman Suffrage movement declares that all the issues involved in the right of men to vote, and all the powers dependent upon it, are of equally profound importance to women. If the ballot is the scepter of kingship which dignifies man with a noble responsibility, it is no less to her who must teach him the moral duties entailed by that responsibility. She may make mistakes in the exercise of her new prerogative, but in the wider field of activity to which she is called she will gain the kind of culture that will enable her to become a better, because a more clear-sighted, mother. The suffragists hope that the same refinement that has been noted in all public movements, in which men and women work conjointly, will purify the political meeting and the ballot-box. The example of Wyoming encourages them in this hope. They demand that woman shall have equal (some think, coördinate) facilities with man in preparing for and pursuing any calling she may choose. Not restriction, but competition, will determine the sphere of every human worker.

Finally, the suffrage party endeavors to purify marriage and ennoble motherhood, by insisting that a liberal education and liberal opportunities for gaining a livelihood shall prevent marriages that are not unions of respect and affection. It resents

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as an insult the insinuation that women are becoming too finical as regards the qualifications of husbands, and that the alternative of womanhood is to marry or to starve. It directs attention to the means for preserving physical health, and lays the axe at the root of social immorality.

Such is the status of the revolution which "ought to turn backward."

NINA MORAIS.

MRS. UNDERWOOD.

IN an article in the NORTH AMERICAN REVIEW for August, Dr. Hammond gives what he calls "grave anatomical and physiological reasons" why woman's desire for "unrestricted suffrage" and expectation of "holding political office" should be disregarded, and also why the limited suffrage she already possesses should be taken from her. As he expresses it, "contrary to the course of procedure in other revolutions, this one should go backward."

The first of these "grave anatomical and physiological reasons" we find to be the oft-stated one that "the brain of man is larger than that of woman." Would not this argument apply to man against man as well? If so, how will Dr. Hammond explain such instances as the following, which are by no means uncommon?

"Dr. Haldemann reports, in the 'Cincinnati Lancet' and the 'Popular Science Monthly,' that the brain of a mulatto who died lately at Columbus, Ohio, weigned 68¾ ounces, or nearly 5 ounces more than that of Cuvier. The man was 'illiterate, and not very intelligent.' The latter journal mentions also the case of a bricklayer, whose brain weighed 67 ounces, but who could neither read nor write."

That the Doctor believes in the exploded theory of brain-weight determining the amount of intelligence in individuals is further shown by his attempt to explain the superiority of some women in his admission that "the brains of some women are larger than those of some men, just as some women are vastly superior mentally to some men"; but he fails to show that the particular women whose brains are larger than some men's are the women who are mentally superior to the men whose brains weigh less than theirs. In another phase of the brain question he seems to think he has found a stronger proof against woman's

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intellectual possibilities. "The female brain," he avers, "is not only smaller than that of man but is different in structure, and this fact involves much more as regards the character of the mental faculties than does the element of size." To this we will let Dr. Louis Büchner, the widely known German physicist and author, reply. He says:

"The smaller stature and weaker muscular development of woman, as well as the smaller diameter of the nervous threads which converge in the central parts of the nervous system, quite naturally cause the total mass of the female brain to be comparatively smaller, without necessarily causing the development of energy of the parts of the brain devoted to the intellectual functions to suffer. In the second place, even if it could be demonstrated that these parts remain in their development behind those of man, this may just as well be ascribed to defective exercise and cultivation as to an original deficiency. For it is well known that every organ of the body, and therefore also the brain, requires for its full development, and consequently for the development of its complete capability of performance, exercise and persistent effort. That this is and has been the case for thousands of years in a far less degree in woman than in man, in consequence of her defective training and education, will be denied by no one. . . . Finally, in confuting this objection, a point must not be forgotten, to which attention cannot be too often called, namely, that the estimation of the intellectual value of a brain depends not merely upon its size or material bulk, but equally, if not even more, upon its internal constitution and the finer development of its individual parts, and that it is perfectly conceivable that the female brain as regards this fineness, and in accordance with the greater fineness and delicacy of the female body generally, may exceed the male brain in the same proportion as the latter exceeds the female brain in its development in size."—"Büchner's Man in the Past, Present, and Future," pp. 205–207.

We refer Dr. Hammond also to the discussion on this point between the eminent German anatomists and physiologists, Bischoff and Bruehl, the first of whom took Dr. Hammond's position, while Dr. Bruehl denied that any anatomist had yet been able to determine the sex of a brain from the configuration of its convolutions.

But the supreme obstacle to woman's pretensions to the franchise the Doctor finds in "a peculiar neurotic condition, called the hysterical, which is ingrafted on the organization of woman," which is "the result of the advanced development of the emotional part of her nervous system," and which "is at any moment, and often from slight causes, liable to burst out into unexpected and uncontrollable paroxysms in which all the mental and physical faculties are perverted from their normal course of action

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and thrown into a condition of the most astonishing turbulence," and therefore "entirely unfits her for emergencies, or difficult situations in general." That women, by reason of the conditions under which they have been held in the past, are more prone than men to nervous excitement is true, but it is not true that these nervous tendencies have been developed to the extent claimed by Dr. Hammond, nor would those tendencies have any appreciable effect on woman's political opinion or action. In all the most perilous crises of life, common to men and women alike, women have been found as likely to act with dignity, sound judgment, and promptness as men.

"A strong point in the mentality of woman," Dr. Hammond concedes, "consists in her intuitions. . . . She will often 'jump' at a correct conclusion with a wonderful degree of promptness and accuracy, which reason would reach with slowness and difficulty, if at all"; but he confesses that he perceives "nothing intellectual about the process," which confession marks the limitations of Dr. Hammond's knowledge of what intuition really is. Those who have studied intuition the most closely are agreed that it is experiential in its origin, and dependent for its existence primarily upon those slower intellectual processes commonly called reasoning. Intuition is judgment wherein "the relations seem to embody experiences which are not specified, or cannot now be specified, although originally they were capable of being so." It is experiential in the race but connate in the individual, and strong as an aptitude in those directions in which the reasoning powers for centuries have been continually exercised; for instance, in women, those demanding insight into motives and character. Says G. H. Lewes, than whom none have given this subject more careful study:

"Intuition under its ideal aspect is judgment. . . . The conclusion which is seen so rapidly that its premises are but faintly or not at all recognized, is said to be seen intuitively; it is an organized judgment. . . . In the perception of an object we are unconscious of the many evanescent muscular feelings by which its distance is estimated and its shape inferred. These relations are intuited, and because the judgments are so rapid and so inevitable, we regard the perception of distance and the shape of the object as given in an immediate apprehension. Analysis, however, discloses that the evanescent processes of which we are unconscious must have taken place, and in the early days of experience the processes took place slowly, consciously. All our other intuitions are organized experiences, groups of neural processes which originally were isolated."

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Thus the intuitions of woman cannot be so unintellectual in their nature as Dr. Hammond would have us think.

Another of the "grave anatomical and physiological reasons" which forbid women meddling with politics, according to Dr. Hammond, is her incapacity for mathematical studies, which he thus states:

"It is owing to this difficulty of being exact that the female mind experiences overwhelming obstacles in the study of mathematics. It is not a matter for surprise that the school-girl, under the idea that she must pursue the same course of study which experience has shown to be most advantageous for boys, suffers with headache and other symptoms of disordered cerebral action when she ventures into the domain of spherical trigonometry and the differential calculus."

In astronomy, a science largely based on a thorough knowledge of the higher mathematics, three women in recent times have made their names memorable through their high attainments and discoveries. Their mathematical studies evidently did not injure their health or cause any "symptoms of disordered cerebral action," for they were women of exceptional health and longevity. Mrs. Somerville died at the age of ninety-one years and eleven months, and was active in mind and body up to the day of her death; Caroline Herschel lived to be nearly ninety-eight, with all her mental faculties unimpaired; Maria Mitchell is now sixty-five years old, and until within the last two or three years never knew a sick day; while hundreds of other women are to-day engaged in mathematical studies as severe as those of any male students, and with no more consequent evidence of "disordered cerebral action"; Professor Laughlin, Professor of Political Economy in Harvard, says, in regard to the students of the Harvard "Annex":

"The first year of the establishment of the plan for the collegiate instruction of women the largest single course fell to me as instructor in political economy. To six ladies I gave a course identical with that followed by one hundred and eight under-graduates, chiefly from the Junior and Senior classes of Harvard, so that it was natural for me to make comparisons in regard to results. So far as marks signify anything, those received by this class of ladies, graded on the same scale with the young men, were somewhat higher for the former than for the latter. And I may add that the courses in political economy are regarded by under-graduates in college as among the most difficult in the curriculum."

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Dr. Hammond clinches his argument as to the inexactitude of women by the statement that on this account "life insurance companies decline to issue policies to her. For the like reason many corporations which loan money will not lend to women, though the securities be as good as gold itself." To say nothing of the inconsistency of the statement that corporations will not lend to any one when the securities are "as good as gold," the assertion in regard to insurance companies can be abundantly disproved, the Equitable Insurance Company, for instance, having thousands of women among its policy-holders; and the only cases in which higher rates are demanded from women than from men are those during the child-bearing period, and then not on account of woman's "inexactness," but because of the greater risk to life during those years; and those rates are no higher than are demanded of men who follow precarious occupations, as sailors, commercial travelers, or railroad men.

Dr. Hammond declares that women are "entirely wanting in that type of mental organization known as the 'judicial mind.'" Also, that, although there are certain offices "of a clerical and routine character," for which the sex is fitted, yet "those in which force of intellect, a power of disinterested judgment, and enlarged views of public policy are required must ever continue to be occupied by man." No position can test more seriously these qualities than the governmental power possessed by the rulers of nations. The law of primogeniture in monarchical nations has in certain instances forced upon women this power. To accord with Dr. Hammond's theory, the reigns of queens and empresses should have proved more disastrous to the interests of their respective nations than those of kings and emperors, for in no case could there be any choice of women of exceptional ability to fill positions determined only by ties of consanguinity and priority of birth. Of the four queens who have ruled England, none were weak-minded or vacillating, and the reigns of Elizabeth and Victoria form two of the most splendid epochs of English history. Five of Russia's sovereigns have been women. One of these was Olga, surnamed "the Wise"; Catherine, the widow of Peter the Great, a charming and brilliant woman, was called "the Russian Aspasia"; and Catherine II., though headstrong and somewhat cruel and vicious, was a woman of great intellect and the liberal patron of science, art, and literature; under her rule Russia made prodigious progress. In 1338,

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Margaret, Queen of Sweden, styled by historians "the Semiramis of the North," by her warlike prowess and wise policy, united for the first time Sweden, Denmark, and Norway under one government, of which she was the head, and which she raised to a high pitch of glory. To the liberality of thought and purse of Isabella of Spain is due the discovery of this continent, while no German monarch accomplished more for the honor and glory of his country and people than Maria Theresa of Austria. If we turn back to an earlier period of history, we find record of the brilliant reigns and noble deeds of Boadicea, Semiramis, and Dido; while even among the Jews, Deborah, a prophetess, was made one of the ruling judges of Israel because of her wisdom; and it was to the tact of a Jewish queen that the race once owed its salvation. And yet Dr. Hammond, on the strength of his "anatomical and physiological" reasons, would have us believe that women are "entirely wanting in that type of organization known as the 'judicial mind.'"

Having proved, as he thinks, that women are lacking in the "judicial mind," he owns that the franchise ought to "carry with it the right to hold any office" for which they "have the privilege of voting"; and since, in his opinion, women are not fit to hold political offices, they should therefore not be allowed to vote Even admitting the truth of his theory in regard to the incompetence of women to hold office, Dr. Hammond's argument does not hold good. Every male voter, no matter how ignorant, besotted, or vicious he may be, has the right to hold the highest office for which he votes, provided his fellow-voters wish to bestow it upon him. Dr. Hammond knows that, in comparison with the number of voters, the number of offices is small, and that only such men are elected to fill those offices as are thought by their fellows to be best fitted to hold them. Dr. Hammond may rest assured that if women are, as he says, so totally incompetent to perform the duties incumbent on any political position, they will never be voted into such position. But if, perchance, some woman should be found more capable of filling such office than any other male or female voter, common justice would require that she be allowed to accept the place.

One more point. The Doctor would lead us to infer, from the tone of his article, that "woman in politics" was an untried problem. While denied the franchise, women have always taken a more or less active share in the politics of all nations, and men

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have been very glad to invite and accept their aid in all national or individual political crises. In the French revolutions, in Russia's Nihilism, and in the Irish struggle for independence, women have been active and prominent. In English election canvassing, and in American Congressional lobbying, woman's part is well understood and welcomed by those for whom they work. It is time for woman's political services to be justly recognized, and her full coöperation in politics invited and encouraged, by giving her the right to assert her own individual political preferences through the ballot.

SARA A. UNDERWOOD.

DR. LOZIER.

REVOLUTIONS and reforms make the greatest strides when opposition is fiercest and the true nature of the foe is known. In order to win with fair minds, it is often quite sufficient that the opposition display its weapons and animus; then the case may at once be submitted to the enlightened moral sense of mankind. Error ever encases itself in an armor of sophistries, glittering generalities, and unsupportable assertions, and fancies itself invincible. Now and then a mighty man of valor stalks forth from the camp of the Philistines, clad in triple brass, and challenges the reform host, but Israel is not greatly dismayed. Some simple keeper of a flock among them may cope with this new Goliath of Gath.

And now comes Dr. William A. Hammond, a gentleman high in medical councils, who, in the NORTH AMERICAN REVIEW for August, declares that the size and quality of woman's brain, and her "neurotic, hysterical" organization, unfit her to choose her rulers, and seriously incapacitate her "to rule others." He weighs her brain and announces that she has too little by several ounces. He shows by medical records that in eighty-one adult brains of both sexes, the ratio between the weight of the brain and that of the body is almost identical, being in man 1 to 36.50, and in woman 1 to 36.46. He then cuts down through the cerebral convolutions, gray cortical substance and sulci, and from the number, configuration, and depth of these infers that women never ought to vote. They should remain the subject class! He might have said, the victim class, for so surely as any class wrongfully rules another class, that class will

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be victimized. The argument from superior force is unworthy of this age, and will bring ruin to any nation or home. Perhaps some day a woman anatomist will dissect the brains of several men, and discover wonderful twists in their convolutions, or absence of them, or thickening of the cranial plates or diploë, which, in her estimation, will disprove their ability to vote or to rule. After much tabulating, the Doctor gravely concludes that absolute, and not relative brain-weight, always has governed, and always will and should govern the world. He has proved that the ratio between the weight of body and brain is almost precisely the same in both sexes. He admits that some women have larger and finer brains than some men. If absolute brain-weight is to be the qualification for suffrage, then it follows that only persons of greatest avoirdupois are fitted to rule. The fat men's club hereafter must bear sway.

Admitting all he says, the reason is more urgent that women should vote. Just government is established for the protection of the weak, and they, preëminently, should have a personal voice in it. In a true democracy, the question of sex, size, color, property, education, vocation, or race has nothing to do with the inherent right of each individual citizen to be heard in the choice of his or her rulers. Our Government is not a democracy. It is an androcracy. Men rule. The majority even does not rule, for the census shows that women are in the majority in many States. Notwithstanding man's claim to represent woman, cruel laws oppress her. In this State of New York no wife has a right to her offspring, though for them she may have jeoparded her very life. Her husband can legally snatch them away, even in infancy. Nay, he can will them away before their birth. The only child a mother has a right to is an illegitimate one. If women were legislators, would such laws disgrace our statute books? A woman sits disfranchised while a drunken pauper may vote to so open a road as to confiscate her house. Yet Dr. Hammond coolly says of woman, "Her person and property are as well protected as those of man."

Again: Dr. Hammond thinks that man's front brain, the part that is chiefly concerned in mentality, is longer and larger than woman's. Of course, as the size of the brain is proportioned to that of the body, and as women are generally smaller than men, we should expect this. It proves nothing. The Doctor seems unaware of facts recorded in the annals of surgery, which show

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that a portion of this fore-brain may be destroyed and yet the intellect remain unimpaired. We might more reasonably claim that woman's structure appears more complex than man's. Comparative anatomy demonstrates highest complexity as indicating highest type. Conceding evolution and revelation, woman, being last created, represents the highest divine work.

Physiology can never decide morals nor political rights; intelligence might. A million illiterate blacks and foreigners now vote; woman ranks with "minors, idiots, criminals, and Indians untaxed." Perhaps Dr. Hammond would gallantly rescue her from this deep degradation. Craniology establishes no test of ability. A man representing exact science ought to be exact. One fact often upsets many theories. Byron, Gambetta, Emerson, had notably small brains. Some idiots have large brains. According to Broca, an excellent observer, men possessing less than thirty-seven ounces of brain become idiots, while women do not till the weight falls below thirty-two; therefore, woman's brain must be finer. Similarly, the negro's elongated heel and thick cranial bones were thought to prove his unfitness for freedom. If Dr. Hammond finds a vast difference between woman's brain and man's, surely man can never truly represent her. If Dr. Hammond's method should prevail, let all voters and candidates take to the polls accurate tape measures and scales and settle politics mathematically. But this can only be done by knocking out each other's brains, since measurements vary with thickness of skull.

He seriously objects to woman's enfranchisement, because short-haired women and long-haired men and "fanatics," unhappily married, were chiefly its early assertors. Fifty years in reform work convince me that this is entirely incorrect and irrelevant. The world often misrepresents, and sometimes crucifies, its saviors.

But woman is an "emotional" being, and Dr. Hammond's experience as a specialist in nervous diseases has apparently been painful. He says: "To this great preponderance of the emotional over the intellectual nature is due the fact that very few women are capable of an intense degree of abstract thought, no matter how much education they may have received." . . . "No great ideas, no great invention, no great discovery in science or art, no great poetical, dramatic, or musical composition, has ever yet emanated from a woman's brain. There

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have been two or three second-rate female painters, and perhaps one first-rate female novelist,—and when that is said, all is said." We fear the Doctor's reading has been greatly circumscribed. To Dr. Hammond this statement may seem true, but the reading, thinking world includes more than himself. The great and good women judges and rulers of the ancient and modern world, the women poets, jurists, historians, astronomers, authors, inventors, scientists, artists, physicians, mathematicians, and political economists of this and every age,—an illustrious line, showing that women may be whatever they choose,—he passes by in utter silence. Mrs. Somerville is the one exception he makes by name, and she, he holds, was not essentially great, but was only conspicuous because of being a woman. Such women, he urges, are simply exceptions to the rule; we maintain that they prove what the rule might be for others if they had the opportunity and the encouragement men have had.

Dr. Hammond merits the rebuke of every just mind when he declares woman's entire inability to tell the truth. We all know that some women are untruthful, and that many men are so habitually. It is quite another thing to say, as Dr. Hammond does, that all womankind is untruthful. "As woman cannot reason abstractly, neither can she reason exactly. She does not, in fact, while having an abhorrence of falsehood, understand the necessity for being exact in the ordinary affairs of every-day life." . . . "On account of her inability to be exact in regard to her age, the diseases she may have had, her mode of life, and other matters in which exactness is required, life insurance companies decline to issue policies to her. For the like reason, many corporations which loan money will not lend to women, though the security be as good as gold itself." The gentleman is wholly incorrect. Insurance companies insure women's lives at slightly advanced rates, because of childbirth risks. I myself was examining surgeon for the New York Globe Mutual for many years. If some institutions refuse loans to women, it is because they cannot deal severely with widows in case of foreclosure and deficiency judgments without incurring public odium.

Perhaps Dr. Hammond's practice among sick, weak, abnormally emotional and artificially stimulated patients, forming a wealthy *clientèle*, accounts for his view of woman. If he would step out from examining diseased, neurotic, hysterical cases, and observe healthy women, and visit or read reports of Cambridge,

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Harvard, Oberlin, Cornell, Michigan University, and other colleges where girls engage in competitive studies—literary, scientific, and mathematical—with boys, often winning the highest prizes, and that, too, with unimpaired health and mental balance, he would not deliberately state that "the female mind experiences overwhelming obstacles in the study of mathematics." . . . "The attempt to convert a woman into a mathematician is generally very much like making a hare drink brandy and soda."

The learned Doctor thinks, however, that woman's intuitions are not to be despised. "She will often 'jump' at a correct conclusion with a wonderful degree of promptness and accuracy, which reason would reach with slowness and difficulty, if at all. There is nothing of intellectuality about the process, so far as we can perceive." Astonishing! Well, what is it then? The world could wish that male legislators had a little of this divine intuition at the risk of diminished intellectuality. This is conceding to woman an immense advantage over man.

Finally, the Doctor thinks that while suffrage for woman might be tolerated, her right to hold judicial office, which suffrage implies, would be intolerable and dangerous. This is again contrary to all experience where women have occupied such positions. See reports of the governors and supreme court judges and district attorneys of Wyoming Territory, where women have acted as jurors and justices. Governor Hoyt says of woman suffrage, "Under it, we have better laws, officers, institutions, morals, and a higher social condition than could otherwise exist. Not one of the predicted evils, such as loss of delicacy and disturbance of home relations has followed in its train. After twelve years of happy experience, woman suffrage is rooted and established in the minds and hearts of this people."

Woman's emotional, "hysterical" organization Dr. Hammond compares to a packet of dynamite, explosive whenever disturbed. "Her likes and dislikes," he declares, "are paramount with her; the question of right or wrong is a secondary consideration. She will sacrifice her own happiness, her life, and all considerations of duty to others and the public at large, for some man whom she loves, and punish with merciless severity those who, though innocent of crime, have desecrated her ideals, or have otherwise rendered themselves unpleasant to her." This is the most terrible indictment we have ever seen drawn against the mothers,

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wives, sisters, and daughters of mankind. The mind and heart recoil from it, and words utterly fail us in view of its enormity. Are women to be fairly represented, ruled and judged by persons having this estimate of them?

Ethics, logic, and revelation favor the claims of woman. Consequently, many distinguished intellects daily acknowledge their validity. Objections disappear. If "politics is a dirty pool," women will purify it. If Bridget will vote, so does Patrick; the great average will correct incidental evils. If men fail to vote, woman's quicker conscience will enforce the duty. If woman cannot bear arms, many men are also exempt. They substitute sons. If many women are unsuited for office, so are many men. If some women undervalue suffrage, others ought not to be deprived of the franchise. If priestly influence is feared, or union of church and state, woman's enlightened conscience and general intelligence will dispel that apprehension. If rum and venality already threaten the Republic, woman's direct co-operation alone can save it. If the humblest citizen is politically defrauded, all citizenship is jeoparded. If the army and navy may be summoned to enforce the sacred political right of a single male citizen, so should it to enforce woman's. If taxation without representation is tyranny, women are cruelly wronged. If governments derive their just powers from the consent of the governed, ours is a usurpation.

No reform has made such rapid progress in public estimation as this. A goodly number of women are seeking the professions; others crowd industrial pursuits; multitudes support themselves and their families. They demand a direct voice in legislation and in the national councils. They will surely soon obtain it. Already the United States are outstripped in the race of freedom. In England, 600,000 women, owning real estate or paying rent, exercise the right of municipal suffrage without provoking revolution or social disturbance, and by a recent close vote nearly won the right of suffrage in parliamentary elections. In glancing over the list of the members of Parliament who supported the measure, we find that it contains the names of the foremost statesmen of England. The cause has, at times, nearly triumphed in our own various legislatures and in Congress. Scan the men on each side, and none can fail to discern the inevitable drift of the times toward the speedy enfranchisement of woman. The Republic needs woman suffrage more than women do. Too

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long in legislation has the head been divorced from the heart. Women also need the franchise quite as much for their education, personal self-respect, enlargement of view, and activity, as for gaining and maintaining their rights. Responsibility always educates. As woman in the march of the world's reform is last to be elevated, so may she be first in securing for it its final triumph in good government and the establishment of peace and prosperity on earth.

CLEMENCE SOPHIA LOZIER.

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